

Family NEMICHTHYIDAE

Body excessively slender, more or less compressed, deepest medially, tapers back to usually long and slender filiform tail, forward to very long slender neck, abruptly enlarged at head. Head small, short, rather wide, top depressed. Snout protruded, extremely slender nearly needle like, upper jaw longer. Eye moderate, mandible slender like upper jaw. Mouth cleft extends behind eye. Jaws and vomer with close set teeth, points sometimes directed backward. Tongue not free. Nostrils large, close together before eye, without tube or flap. Gill opening large, separated by narrow isthmus or partly confluent. Branchial openings in pharynx wide slits. Suspensorium vertical. Vertebrae numerous. No scales. Lateral line with or without pores. Dorsal and anal long, confluent with reduced caudal or extend to end of filamentous tail. Pectoral small, well developed. Vent near gill openings or more posterior.

Singular bathypelagic eels, of warm and temperate seas.

Analysis of genera

- a¹. Pectorals present.
- b¹. Body greatly elongate, depth 20; gill opening long, lateral; mouth not extending behind hind eye edge; dorsal and anal begins in anterior part of trunk.
- c¹. Snout snipe-like beak, jaws long, arched and slender, comprise greater part of head, abruptly contracted before eyes; teeth all minutely fine; pectoral well developed; gill openings clearly separated at throat.
- d¹. Nemichthyinae. Caudal with filament; dorsal begins on head; vent below pectorals.
 - e¹. Lateral line in 3 rows of small pores disposed in quincunx. Nemichthys.
 - e². Lateral line without pores.
 - f¹. Teeth blunt. Nematoprora.
 - f². Teeth pointed. Cercomitus.
- d². Labichthyinae. Caudal without filament; lateral line with 1 row of large pores; dorsal begins above or behind pectorals.
- c². Snout beak like, jaws applied against one another, much less than head, progressively contracted before eyes; caudal without filament.

g¹. Avocettinopsinae. Beak soft, flexible, less than 1/4 head; no teeth gill openings clearly separated at throat; lateral line with row of large pores; pectoral well developed and rays in 2 rows; dorsal begins on head, well before anal. Avocettinops.

g². Serrivomerinae. Beak stiff and firm, somewhat less than head; teeth present; gill opening partially confluent at throat; lateral line without pores; pectoral rudimentary, rays in single row; dorsal begins behind pectoral.

h¹. All teeth minute, uniform, fine; anal begins somewhat opposite dorsal. Stemonidium.

h². Teeth strong, variable; vomerine teeth usually larger than maxillary; anal begins before dorsal.

i¹. Vomerine teeth flattened, lanceolate, in 2 parallel rows which form crest or saw like plate on mouth roof. Serrivomer.

i². Vomerine teeth pointed, conic, well separated, form single row on mouth roof.

j¹. Tail lanceolate; nostril in tube each side. Platuronides.

j². Tail slender; nostril without tube.

Spinivomer.

- b². Cyeminae. Body moderately long, depth 10; gill opening small, ventral; mouth cleft reaches middle of postorbital; snout snipe-like beak, jaws long and slender, greater than head, abruptly contracted before eyes; teeth minute, fine; pectoral well developed; dorsal and anal posterior; caudal forked. Cyema.
- a². Alcockidiinae. No pectorals. Alcockidia.

Genus Nemichthys Richardson

Nemichthys RICHARDSON, Voy. Samarang, Fishes, 1848, p. 25. Type

Nemichthys scolopaceus RICHARDSON, monotypic.

Leptorhynchus LOWE, Proc. Zool. Soc. London, 1850, p. 252. Type

Leptorhynchus leuchtenbergii LOWE, monotypic.

Belonopsis BRANDT, Mem. Acad. Sci. St. Petersbourg Sav. Etrang.,

1854, p. 174. Type Leptorhynchus leuchtenbergii LOWE, monotypic.

Investigator GOOD and BEAN, Oceanic Ichth., 1895, p. 518. Type

Nemichthys acanthonotus ALCOCK, orthotypic.

Tilurella ROULE, Compt. Rend. Acad. Sci. Paris, vol. 153, 1911,

p. 732. Atypic. Type Nemichthys scolopaceus RICHARDSON.

Body exceedingly elongate, slender, tapers towards tail. Head rather stout. Jaws prolonged as slender straight bill, not expanded at tip. Eyes large. Jaws and vomer with small close set teeth, points directed backward. Tongue not free. Nostrils close together, near eye. Gill openings wide, extend down and forward, nearly confluent. No scales. Dorsal origin above gill opening. Anal origin close behind vent. Pectorals well developed. Vent below pectorals.

Bathypelagic in tropical seas.

Nemichthys scolopaceus Richardson

Nemichthys scolopaceus RICHARDSON, Voy. Samarang, Fishes, 1848, p.

25, pl. 10, figs. 1-3. South Atlantic. -- PETERS, Monatsb. Akad. Wiss. Berlin, 1876, (1877), p. 849 (north of New Guinea). -- GOODE and BEAN, Bull. Essex Inst., 1879, p. 26 (George's Bank). -- GOODE, Proc. U. S. Nat. Mus., vol. , 1880, p. 488 ().
 -- JORDAN and GILBERT, Bull. U. S. Nat. Mus., No. 16, 1882, p. 336 (compiled). -- GOODE and BEAN, Bull. Mus. Comp. Zool., vol. , 1883, p. 225 (). -- JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889 (1892), p. 657 (compiled). -- GOODE and BEAN, Oceanic Ichth., 1896, p. 152, pl. 46, fig. 170 (N. 37 to 41 W. 60 to 74, 612 to 2369 fathoms). -- JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 369 (compiled). -- BRAUER, Deutsch. Tiefsee Exped. Valdivia, vol. , 1906, Tiefsee Fische, p. 126, pl. 9, fig. 1 (N. 16°14' 1" W. 22°38' 3", 1694 meters. Cape Verde Islands). -- ROULE, Ann. Inst. Oceanogr. Monaco, vol. 1, fasc. 6, 1910, p. 1, pl. 1 ().
 -- GRASSI, Metamorf. Mureniod. Ric. sist. ecolog. Iina, 1913, p. , pls. (Messina). -- WEBER and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 330, figs. 157-158 (compiled). -- CAZIOT and ISNARD, Bull. Soc. Zool. France, vol. 45, 1920, pp. 87, 88 (Nice). -- ROULE and BERTIN, Bull. Mus. Hist. Nat. Paris, 1924, No. 1, p. 62 (). -- BARNARD, Ann. South African Mus., vol. 21, pt. 1, June 1925, p. 198 (off Cape Point, 400 fathoms; Natal coast). -- FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 41 (compiled). -- ROULE and BERTINI, Danish Dana Exped. North Atl., Rep. No. 4, Sept. 1, 1929, p. 9, fig. 1-9 (Atlantic, Gulf of Mexico, Caribbean Sea, Gulf of Panama, to 6000 meters).

Nemichthys scolopaces GUNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870,

p. 21 (type; Madeira); Rep. Voy. Challenger, vol. 22, 1883, p.

263 (type of Leptorhynchus leuchtenbergii). -- VAILLANT, Exped.

Sci. Travailleur et Talisman, Poiss., 1888. p. 93, pl. 7, figs.

2-a (Banc d' Arguin, 888 meters).

Leptorhynchus leuchtenbergii LOWE, Proc. Zool. Soc. London, vol.

18, 1850, p. 252. Madeira.

Belonopsis leuchtenbergii BRANDT, Mem. Acad. Sci. St. Petersburg,

Sav. Etrang., 1854, p. 174, pl. .

Nemichthys avocetta JORDAN and GILBERT, Proc. U. S. Nat. Mus., vol.

3, 1880 (1881), p. 409. Harbor of Port Gamble, Puget Sound;

vol. 4, 1881 (), p. 37 (). -- BEAN, Proc. U. S. Nat. Mus.,

vol. 16, 1882, p. 367 (compiled). -- GUNTHER, Rep. Voy. Challenger,

vol. 22, 1887, p. 263 (compiled). -- JORDAN and DAVIS, Rep. U. S.

Fish Comm., pt. 16, 1889 (1892), p. 657 (compiled). -- GOODE and

BEAN, Oceanic Ichth., 1895, p. 153 (reference). -- JORDAN and

EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 369

(compiled). -- ROULE and BERTIN, Danish Dana Exped. North Atl.,

Rep. No. 4, Sept. 1, 1929, p. 7 (note).

Nemichthys acanthonotus ALCOCK, Journ. Asiatic Soc. Bengal, vol. 53,

pt. 2, No. 2, 1892, p. 136. Bengal Bay, 475 fathoms; Illustrat.

Zool. Investigator, Fishes, pt. 3, 1895, pl. 14, fig. 5 (type);

Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, 1896, p. 336 (refer-

ence); Cat. Deep Sea Fishes Indian Mus., 1899, p. 190 (Bay of

Bengal, 475 fathoms; Arabian Sea, 636 fathoms).

Investigator acanthonotus GOODE and BEAN, Oceanic Ichth., 1895,

p. 518 (reference).

Nemichthys fronto GARMAN, Mem. Mus. Comp. Zool., vol. 24, 1899,

p. 324, pl. 65, fig. 1. N. $7^{\circ}31'30''$ W. $109^{\circ}48'$, 1588 fathoms,
off Panama.

Nemichthys mediterraneus ARIOLA, Ann. Mus. Civ. Stor. Nat. Genova,

vol. 51, 1904, p. 156. Gulf of Genoa; Revista Pesc. Idrobiol.

Pacia, vol. 8, pt. 15, 1913, p. 1.

Depth 6 or 7 in head; head $11 \frac{3}{5}$ to $12 \frac{1}{2}$, width $6 \frac{1}{2}$ to 8 in its length. Snout $1 \frac{2}{5}$ to $1 \frac{1}{2}$ in head; eye $9 \frac{1}{5}$ to 12, $6 \frac{1}{5}$ to $8 \frac{1}{8}$ in snout, greater than interorbital; upper jaw slightly longer than lower; maxillary extends $\frac{2}{5}$ to $\frac{1}{2}$ eye diameter behind head, length $1 \frac{1}{4}$ in head; teeth fine, with very short, low, sharp points, rough to touch, in bands in jaws and on vomer; interorbital over firm portion $\frac{1}{2}$ of eye, concave. Gill opening $\frac{2}{3}$ to $\frac{3}{5}$ of eye, interspace very narrow.

Lateral line distinct.

Dorsal begins $\frac{1}{2}$ to $\frac{3}{4}$ an eye diameter before gill opening, fin height 6 to 7 in head; anal higher, fin height 4 to 5; pectoral $5 \frac{1}{5}$ to $5 \frac{1}{2}$.

Brown, clouded with gray white. Iris dark gray. Under surface of head and gill openings blackish brown. Dorsal brownish. Anal neutral blackish. Pectoral brownish, whitish below and blackish terminally.

Atlantic, South Africa, Natal, Arabian Sea, Bay of Bengal, East Indies, Philippines, Eastern Pacific.

4121. D. 5365. Cape Santiago Light, N. 73° W., 6.7 miles (N. $13^{\circ}44'$ $24''$ E. $120^{\circ}45' 30''$). Balayan Bay, Luzon. In 214 fathoms. February 22, 1909. Length 757 mm.

D. 5320. Ibugos Island (S. end) N. 81° W., 1.25 miles (N. $20^{\circ}19' 15''$ E. $121^{\circ}51' 20''$). In 26 fathoms. November 9, 1908. Length 352 mm.

4141. D. 6521. Makyan Island (S.), N. 54° W., 3 miles (N. $0^{\circ}15'$ E. $127^{\circ}24' 35''$), between Gillolo and Makyan Islands. In 298 fathoms. November 28, 1909. Length 280 mm., mandible broken.

10066. D. 5275. Malavatuan Island (N.), S. 71° E., 10.75 miles (N. $13^{\circ}55' 55''$ E. $120^{\circ}10' 15''$), China Sea vicinity southern Luzon. In 117 fathoms. July 16, 1908. Length 428 mm.

D. 5646. North Island (S.), S. 68° E., 7.5 miles (S. $5^{\circ}31' 30''$ E. $122^{\circ}22' 40''$), Buton Strait. In 456 fathoms. December 16, 1909. Length 408 mm.

D. 5648. North Island (S), N. 87° E., 10.2 miles (S. $5^{\circ}35'$ E. $122^{\circ}20'$), Buton Strait. In 559 fathoms. December 16, 1909. Length 515 mm.

1 example. Philippines. Length 928 mm.

D. 5570. Simaluc Island (S.E.), S. 17° E., 5.7 miles (N. $5^{\circ}32' 15''$ E. $120^{\circ}12' 57''$), north of Tawi Tawi. In 330 fathoms. Sept. 22, 1909. Length 428 mm.

Genus Nematoprora Gilbert

Nematoprora GILBERT, Bull. U. S. Fish Comm., vol. 23, pt. 2, 1903,

(1905), p. 587. Type Nematoprora polygonifera GILBERT, monotypic.

Body greatly elongate, compressed, tapers at both ends, constriction before anal very short and form only very short trunk. Head extremely slender, but slightly deeper than neck. Eye small, just before last fourth in head. Jaws very slender, ends recurved. Mouth cleft extends but slightly behind eye. Teeth pavement like, with slightly rounded surfaces and arranged on oblique series. Nostrils round pores, hind one above and behind front one. Gill opening wide? Tail ends in long filament. Dorsal begins on nape little before gill opening. Pectoral short, broad.

Nematoprora polygonifera Gilbert

Nematoprora polygonifera GILBERT, Bull. U. S. Fish Comm., vol. 23, pt. 2, 1903 (1905), p. 587, fig. 234. Near Bird Island, 313 to 800 fathoms. -- FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 42 (compiled).

Genus Cercomitus Weber

Cercomitus WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 54. Type

Cercomitus flagellifer WEBER, monotypic.

Body very slender, elongate, compressed, tapering each end with tail forming long filament. Head rather long, greatly exceeds very short trunk. Eyes high, upper edge in dorsal profile. Jaws narrow, tapering, equal, somewhat swollen at ends, upper strongly curved upwards. Jaws and vomer closely set with small teeth, points directed backward. Nost-rils close together, somewhat before eye, rounded. Gill openings narrow before and below pectorals. No scales. Dorsal begins little before pect-oral. Anal begins little before end of pectoral.

Cercomitus flagellifer Weber

Cercomitus flagellifer WEBER, Siboga Exp., vol. 57, Fische,

1913, p. 55, pl. 6, fig. 1. S. $8^{\circ}4'7E$. $118^{\circ}44'3$, 2060 meters,
Flores Sea; S. $9^{\circ}3'4E$. $119^{\circ}7'$, 959 meters, Savu Sea. -- WEBER
and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3, 1916, p.
328, fig. 156 (copied).

Leptocephalus andreae Schmidt

Leptocephalus andreae SCHMIDT, Vidensk. Medd. Dansk. Naturh. Foren.

Kobenhavn, vol. 64, 1912, p. . -- ROULE and BERTIN, Danish
Dana Exped. Oceanogr. Rep., No. 4, Sept. 1, 1929, pp. 68-81,
figs. 41-47 (Gulf of Cadiz, Morocco, Canaries, Cape Verde Islands,
west Atlantic, off Carolinas, Bermudas, off Jamaica, Hayti, Porto
Rico, Caribbean Sea, Lesser Antilles, 25 to 1300 meters).

Leptocephalus canaricus LEA, Rep. Sci. Res. Michael Sars, Bergen,

vol. 3, pt. 1, Zool., 1913, p. , pl. .

Leptocephalus curvirostris Strömman

Leptocephalus curvirostris STROMMAN, Leptoceph. Univ. Zool. Mus.

Upsala, 1896, p. , pl. , Atlantic north of Porto Rico. --
ROULE and BERTIN, Danish Dana Exped. Oceanogr. Rep., No. 4, Sept.
1, 1929, p. 61, fig. 37 (copied).

Tilurus curvirostris PAPPENHEIM, Deutsch Südpolar Exped., Zool.,

vol. 7, pt. 2, 1914, p. . -- ROULE and BERTIN, Danish Dana Exp-
ed. Oceanogr. Rep., No. 4, Sept. 1, 1929, p. 63, fig. 39 (copied).

Leptocephalus tiluroides Strömman

Leptocephalus tiluroides STROMMAN, Leptocep. Univ. Zool. Mus.

Upsala, 1896, p. , pl. . -- ROULE and BERTIN, Danish Dana
Exped. Oceanogr. Rep., No. 4, Sept. 1, 1929, p. 62, fig. 38
(copied).

Tilurella gaussiana Pappenheim

Tilurella gaussiana PAPPENHEIM, Deutsch. Sudpolar Exped., vol. 12,
pt. 2, 1914, p. 187, pl. 10, fig. 3-a. S. $30^{\circ}21'$ W. $14^{\circ}2'$, 10
meters, south of St. Helena.

Tilurella a. ROULE and BERTINI, Danish Dana Oceanogr. Exped. Rep.,
No. 4, Sept. 21, 1929, pp. 85-89, figs. 48-49, (west of Madeira,
north of Cape Verde Islands, mid atlantic, 100 to 600 meters).

Tilurella b. ROULE and BERTINI, Danish Dana Oceanogr. Exped. Rep.,
No. 4, Sept. 21, 1929, pp. 89-91, fig. 51-52 (Canaries, between
Madeira and Cape Verde Islands, mid Atlantic, 600 to 3000 feet).

Genus Labichthys Gill and Ryder

Labichthys GILL and RYDER, Proc. U. S. Nat. Mus., vol. 6, 1883 (1884), p. 261, (p. 255 name only). Type Labichthys carinatus GILL and RYDER, designated by JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889 (1892), p. 655.

Avocettina JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889 (1892), p. 655. Type Nemichthys infans GÜNTHER, orthotypic.

Body exceedingly elongate, band shaped, tail tapering to point. Body depth at front third much less than in second third. Head nearly deep as wide. Snout produced into long slender bill, longer than mandible, tip of each with slight pad. Eye moderate, without orbital margin. Teeth in jaws and on vomer close set, points directed backward. Tongue not free. Gill openings rather wide, with narrow interspace where gill membrane fastens to isthmus. No scales. Lateral line formed by one series of pores. Dorsal origin close behind pectoral origin. Anal origin close behind vent. Vent far behind pectorals.

Labichthys scapulariotris (Borodin)

Avocettina scapularostris BORODIN, Proc. New England Zool. Club,
vol. 10, Jan. 22, 1929, p. 109. N. 41°29' W. 47°48', 800 fath-
oms.

Though the two species admitted here differ as shown below, Garman has
not given dimensions for his material.

Analysis of species

a¹. Pectoral 1 1/3 in postocular; eye 4 in postocular. bowersii.

a². Pectoral 1 1/4 in postocular; eye 2 1/3 in postocular.

infans.

Labichthys bowersi Garman

Labichthys bowersi GARMAN, Mem. Mus. Comp. Zool., vol. 24, 1899, p.
323, pl. 64, fig. 1. N. 6° to 10°W. 79° to 96°, 1168 to 2232 fathoms,
off Panama.

Labichthys infans (Günther)

Nemichthys infans GÜNTHER, Ann. Mag. Nat. Hist., ser. 5, vol. 2, 1878, p. 251. Mid Atlantic, 2500 fathoms; Rep. Voy. Challenger, vol. 22, 1887, p. 264, pl. 63, fig. B (type). -- JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889 (1892), p. 655 (copied; north coast of Alaska). -- JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 367 (part); compiled. -- BRAUER, Deutsch. Tiefsee Exped. Valdivia, vol. 15, Fische, 1906, p. 129, pl. 8, figs. 5-6 (N. $5^{\circ}5'3''$ W. $13^{\circ}27'5''$, 3070 meters, West Africa; S. $39'2''$ E. $98^{\circ}52'3''$, 750 meters, off West Sumatra; S. $6^{\circ}19'3''$ E. $73^{\circ}18'9''$, 1900 meters, Chagos Archipelago; between Zanzibar and Gulf of Aden, 1668 to 2959 meters). -- ROULE and BERTIN, Bull. Mus. Hist. Nat. Paris, vol. , 1924, No. 1, p. 63 (). -- BARNARD, Ann. South African Mus., vol. 21, pt. 1, 1925, p. 199 (off Cape Point, 480 to 630 fathoms).

Labichthys infans GOODE and BEAN, Oceanic Ichth., 1895, p. 153, pl. 47, figs. 173-174 (compiled).

Avocettina infans WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 53 (Flores Sea, 1600 meters; Molucca Passage, 1994 meters; Halmahera Sea, 827 meters; Banda Sea, 2477 meters). -- WEBER and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 334, figs. 161-162 (on preceding). -- ROULE and BERTIN, Danish Dana Exped. Oceanogr. Rep. No. 4, Sept. 1, 1929, figs. 10- (Cape Verde Islands, off Guiana, Lesser Antilles, mid Atlantic, Gulf of Panama, 800 to 5000 meters).

Labichthys carinatus GILL and RYDER, Proc. U. S. Nat. Mus., vol. 6, 1883, (1884), p. 253 (name only), pp. 255, 261. N. $41^{\circ}13'$ W. $65^{\circ}33'30''$, 906 fathoms. -- JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889 (1892), p. 656 (compiled). -- GOODE and BEAN, Oceanic Ichth., 1895, p. 153, pl. 46, fig. 171 (type). -- JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 368 (compiled).

Labichthys elongatus GILL and RYDER, Proc. U. S. Nat. Mus., vol. 6, 1883, (1884), p. 262. N. $39^{\circ}22'$ W. $68^{\circ}34'30''$, 1628 fathoms, Gulf Stream; vol. 6, 1883, (1884), p. 255 (name only). -- JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889, (1892), p. 656 (compiled). -- GOODE and BEAN, Oceanic Ichth., 1895, p. 153, pl. 46, fig. 172 (type). -- JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 369 (compiled).

Labichthys gilli BEAN, Proc. U. S. Nat. Mus., vol. 13, 1890, p. 45. N. $55^{\circ}20'$ W. $136^{\circ}20'$, 1569 fathoms, east of Prince of Wales Island, Alaska.

Depth 7 in head; head $7 \frac{2}{5}$ in rest of body to end of broken tail, width 13 in its length. Snout $1 \frac{1}{4}$ in rest of head; eye $15 \frac{2}{3}$, 10 in snout, greatly exceeds interorbital; maxillary reaches very slightly behind eye edge, reaches $1 \frac{1}{4}$ in head; teeth minute asperous bands on jaws and vomer, with very short sharp points; interorbital $\frac{3}{5}$ of eye. Gill opening equals eye, interspace very narrow.

Lateral line distinct.

Dorsal origin opposite middle of depressed pectoral, fin head $5 \frac{1}{3}$ in head; anal height $4 \frac{2}{3}$; pectoral length $4 \frac{1}{3}$; vent $\frac{3}{5}$ of head length behind gill opening.

Blackish brown. Iris dark gray. Dorsal blackish. Anal white. Pectoral dusky, hind lower edge paler.

D. 5544. Coronado Point, S. 37 W., 21.5 miles (N. 8 16' 30" E. 122 26' 30"), northern Mindanao and vicinity. In 759 fathoms. Sept. 6, 1909. Length 165 mm.

4098. D. 5606. Dodepo Island (W.), N. 3 W., 10.8 miles (N. 0 16' 28" E. 121 33' 30"), Gulf of Tomini, Celebes. In 834 fathoms. November 17, 1909. Length 368 mm. to end of broken back.

D. 5634. Gomomo Island (E.), 41 E., 3 miles (S. 1 54' E. 127 36'), Pitt Passage. In 329 fathoms. December 3, 1909. Length 200 mm., with most of tail lost.

4139. D. 5587. Sipadan Island (W.), S. 12 E., 3.8 miles (N. 4 10' 35" E. 118 37' 12"), Sibuko Bay, Borneo. In 415 fathoms. Sept. 28, 1909. Length 468 mm. to end of broken tail.

Genus Avocettinops Roule and Bertin

Avocettinops ROULE and BERTIN, Danish Dana Exped. Oceanogr. Rep.

No. 4, Sept. 1, 1929, p. 30. Type Avocettinops schmidtii ROULE

and BERTIN, orthotypic.

Body elongate, band like. Trunk at first and behind head with narrow collar. Snout acuminate, little less than $1/3$ of head. Eye large. Lower jaw shorter. Mouth cleft reaches hind eye edge. No teeth. Front nostril in rather long tube directed forward, falls about last third in snout. Hind nostril little posterior nearly level with upper eye edge. Gill opening in lower half of body depth. Lateral line single row of large pores. Dorsal begins little before gill opening. Pectorals well developed, each of 2 parallel rows of rays. Caudal present.

Avocettinops schmidt Roule and Bertin

Avocettinops schmidt ROULE and BERTIN, Danish Dana Exped. Oceanogr.

Rep., No. 4, Sept. 1, 1929, p. 30, figs. 13-15. N. $23^{\circ}13'$ W. 82°

$21'$, 1500 meters, off Cuba.

Genus Stemonidium Gilbert

Stemonidium GILBERT, Bull. U. S. Fish Comm., vol. 23. pt. 2, 1903.

(1905). p. 586. Type Stemonidium hypomelas GILBERT, monotypic.

Body narrowly band shaped, trunk constricted and long tail tapering. Head longer than trunk. Jaws tapering to very slender weak tips. Eye small, little advanced in head. Teeth reduced to small granular plates, in quincunx in jaws and on vomer. Nostrils 2 short slits before middle of eye, posterior longer. Gill slits long, oblique, confluent below, membranes united and free from isthmus. Gills 4. No lateral line. Dorsal begins little before anal. Pectoral small.

Stemonidium hypomelas Gilbert

Stemonodium hypomelas GILBERT, Bull. U. S. Fish Comm., vol. 23, pt.

2, 1903 (1905), p. 586, pl. 67. Near Niihau Island, 537 to 672

fathoms. -- FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 42 (compiled).

Genus Serrivomer Gill and Ryder

Serrivomer GILL and RYDER, Proc. U. S. Nat. Mus., vol. 6, 1883, (1884),

p. 260. Type Serrivomer beanii GILL and RYDER, monotypic (p. 255

name only).

Body slender, elongate, moderately compressed, tapering from trunk to snout and to end of tail. Head rather long, pointed. Snout pointed, somewhat curved upward, not longer than rest of head. Eye above mouth angle. Jaws moderately attenuated, lower somewhat longer. Mouth cleft reaches behind eye. Teeth in front third of jaws small, compressed; in several rows, in second third larger, lancet shaped, depressible and uniserial, in last third small, less compressed. Vomerine teeth much larger, blade like, alternating, crowded to appear as compressed serrate row. Gill openings wide, inferior, descend forward. Gill membranes united, joined to thin partition attaching them to isthmus. No scales. Vertical fins confluent. Dorsal origin behind anal origin, latter midway between pectoral and dorsal origins. Pectoral small, rather high. Bent at end of first or in front of second fourth of length.

Bathypelagic in tropical seas.

Serrivomer beanii Gill and Ryder

Serrivomer beanii GILL and RYDER, Proc. U. S. Nat. Mus., vol. 6,

1883, (1884), p. 260. N. $41^{\circ}40'30''$ W. $65^{\circ}28'30''$, 855 fathoms

(p. 255 nomen nudum). -- GOODE and BEAN, Oceanic Ichth., 1895, p.

155, pl. , fig. 175 (type). -- JORDAN and EVERMANN, Bull. U. S.

Nat. Mus., No. 47, pt. 1, 1896, p. 367 (compiled). -- GILBERT,

Bull. U. S. Fish Comm., vol. 23, pt. 2, 1903, (1905), p. 586 (off

Oahu, Bird Island, Kauai, 311 to 1067 fathoms). -- FOWLER, Mem.

Bishop Mus., vol. 10, 1928, p. 42 (compiled).

Serrivomer beani JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889

(1892), p. 653 (compiled). -- BARNARD, Ann. South African Mus., vol.

21, pt. 1, June 1925, p. 200 (south of Agulhas Band, 560 fathoms).

Serrivomer richardi VAILLANT, Exped. Sci. Travailleur et Talisman, Poiss.,

1888, p. 385 (name base on p. 93). -- GOODE and BEAN, Oceanic Ichth.,

1895, p. 155 (compiled).

Avocettina richardi JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889

(1892), p. 655 (compiled).

Nemichthys infans (not GUNTHER) VAILLANT, Exped. Sci. Travailleur et

Talisman, Poiss., 1888, p. 93, pl. 7, figs. 1-1a (Azores, 2995 meters).

Serrivomer sector GARMAN, Mem. Mus. Comp. Zool., vol. 24, 1899, p. 320,

fig. 63. N. 3° to 7° W. $79'$ to $86'$, 134 to 1772 fathoms, off Guaymas. --

BRAUER, Deutsch. Tiefsee Exped. Valdivia, vol. 5, Fische, 1906, p.

132, pl. 8, fig. 4 (S. $26^{\circ}3'6''$ E. $93^{\circ}43'7''$, 2200 meters, between

New Amsterdam and Sumatra; S. $10^{\circ}8'2''$ E. $97^{\circ}14'9''$, 2400 meters;

S. $0^{\circ}58'2''$ E. $99^{\circ}43'2''$, 1280 meters, off west coast Sumatra; S.

$4^{\circ}5'8''$ E. $70^{\circ}1'9''$, 2000 meters, west of Chagos Archipelago; N. 4°

$36'1''$ E. $48^{\circ}37'6''$, 1213 meters, off North East Africa). -- LLOYD,

Mem. Indian Mus., vol. 2, No. 3, 1909, p. 152 (Arabian Sea off Tra-

ancore, 930 fathoms). -- WEBER and BEAUFORT, Fishes Indo Austral.

Archipelago, vol. 3, 1916, p. 332, figs. 159 to 160 (compiled). --

ROULE and BERTIN, Danish Dana Exped. Oceanogr. Rep., No. 4, Sept. 1,

1929, p. 36, figs. 16-17, 25, 30 (Azores, Madeira, Canaries and Cape

Verde Islands, off Guiana, Antilles, Cuba and Bahamas, off Carolines,

Mid Atlantic, Gulf of Panama, 200 to 6000 meters).

Serrivomer sector type brevidentatus ROULE and BERTIN, Danish Dana

Exped. Oceanogr. Rep., No. 4, Sept. 1, 1929, p. 39, figs. 18-21

(teeth).

Serrivomer sector type longidentatus ROULE and BERTIN, Danish Dana

Exped. Oceanogr. Rep., No. 4, Sept. 1, 1929, p. 40, figs. 22-24

(teeth).

As the two example listed below are in very poor preservation,
I am unable to give satisfactory description of them.

D. 5125. Nogas Island (W.), S. 11 E., 24 miles (N. 10 48' E. 121
48' 30"), Sulu Sea, vicinity southern Panay. In 411 fathoms.

February 3, 1908. Length 88 mm. (37.)

D. 5287. Sombrero Island, N. 68 E., 11.25 miles (N. 12 37' 40" E.
120 39'), China Sea vicinity southern Luzon. In 379 fathoms. July

20, 1908. Length 123 mm. Both this and preceding poorly preserved.

Genus Platuronides Roule and Bertin

Platuronides ROULE and BERTIN, Danish Dana Exped. Oceanogr. Rep.,

No. 4, Sept. 1, 1929, p. 48. Type Platuronides danae ROULE and

BERTIN, orthotypic.

Body elongate, somewhat compressed, trunk tapering posteriorly. Snout beaks like. Eye moderate, advanced. Jaws strong and nearly equal. Mouth cleft not reaching hind eye edge. Maxillary and vomerine teeth pointed. Front nostril in **short tube directed forward**, hind one between its base and eye. Gill openings appear united below throat. Lateral row without row of pores. Dorsal begins far behind pectorals, last rays like those of anal little elevated to form lancet end of tail, which without filament.

Platuronides danae Roule and Bertin

Platuronides danae ROULE and BERTIN, Danish Dana Exped. Oceanogr.

Rep., No. 4, Sept. 1, 1929, p. 48, figs. 31-34. N. $25^{\circ}35'$ W.

$74^{\circ}45'$, 1000 meters, north of Watling Island, Bahamas.

Genus Spinivomer Gill

Spinivomer (GILL and RYDER) GILL, Proc. U. S. Nat. Mus., vol. 6,

1883 (1884), p. 261. Type Spinivomer goodei (GILL and RYDER)

GILL, monotypic (P. 255 nomen nudum).

Body elongate, very slender. Eye small. Jaws very attenuated, mandibular rami deep. Median row of vomerine teeth conic. Branchial aperture nearly confluent. Tail filiform. Fin rays ensheathed in tough membrane. Edidermis silvery.

Spinivomer goodei Gill

Spinivomer goodei (GILL and RYDER) GILL, Proc. U. S. Nat. Mus., vol.

6, 1883, (1884), p. 261. N. $38^{\circ}19'26''$ W. $68^{\circ}20'20''$, 2361 fath-

oms, Gulf Stream (p. 255, name only). -- GOODE and BEAN, Oceanic

Ichth., 1895, p. 155 (copied). -- JORDAN and EVERMANN, Bull. U. S.

Nat. Mus., No. 47, pt. 1, 1896, p. 367 (copied).

Genus Cyema Günther

Cyema GÜNTHER, Ann. Mag. Nat. Hist., ser. 5, vol. 2, 1878, p. 251.

Type Cyema atrum GÜNTHER, monotypic.

Body moderately elongate, trunk and tail subequal, band like, soft. Snout and lower jaw produced, slender. Eye very small. Maxillary extends backwards far behind eye. Gill openings very narrow, close together on ventral surface. Suspensorium directed obliquely backwards. Vertebrae 80. Vertical fins well developed, confined and interrupted at end of tail. Pectoral well developed. Vent median between gill openings and end of short tail.

Cyema atrum Günther

Cyema atrum GÜNTHER, Ann. Mag. Nat. Hist., ser. 5, vol. 2, 1878, p.

251. Pacific and Antarctic Oceans, 1500 to 1800 fathoms; Rep. Voy. Challenger, vol. 22, 1887, p. 265, pl. 54, fig. D (type; Antarctic Ocean in 1800 fathoms). -- VAILLANT, Exped. Sci. Travailleur et Talisman, Poiss., 1888, p. 91, pl. 7, fig. 4-4a (off Morocco, 2210 meters). -- JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1889 (1892), p. 154 (compiled). -- GOODE and BEAN, Oceanic Ichth., 1895, p. 154, pl. 48, fig. 176 (compiled). -- BRAUER, Deutsch. Tiefsee Exped. Valdivia, vol. 15, Tiefsee Fische, 1906, p. 131, pl. 8, fig. 3 (S. 3 24' 6" E. 58 38' 1", 2000 meters, Seychelles). -- ZUGMAYER, Res. Camp. Sci. Monaco, vol. 35, 1911, p. 85, pl. 4, fig. 4 ().
- VAILLANT, Res. Camp. Sci. Monaco, vol. 52, 1919, p. 135 ().
- FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 41 (compiled). -- ROULE and BERTIN, Danish Dana Exped. Oceanogr. Rep., No. 4, Sept. 1, 1929, p. 53, fig. 35-36 (Gulf of Cadiz; Morocco, Cape Verde, Guiana, mid Atlantic, Bahamas); fig. 56 (Larvae from Gulf of Cadiz, Madeira, Cape Verde Islands, mid Pacific, west Atlantic, off Guiana).

Genus Alcockidia Gilbert

Alcockidia GILBERT, Bull. U. S. Fish Comm., vol. 23, pt. 2,

1903 (1905), p. 586. Type Gavialiceps microps ALCOCK, ortho-
typic.

Body greatly elongate, tail tapering. Vent about snout length behind gill opening, near front end of long abdominal cavity. Eye small. Jaws form long slender bill. Sharp teeth on premaxillaries, vomer and dentaries. Gill openings close together wide. No lateral line. Dorsal feeble, scarcely evident, except posteriorly. Pectoral and inconspicuous knob, without any rays.

Alcockidia microps (Alcock)

Gavialiceps microps ALCOCK, Ann. Mag. Nat. Hist., ser. 6, vol. 4, 1889,

p. 46. Bat of Bengal, west of ten Degree Channel (between Andamans and Nicobars), 1045 fathoms; vol. 10, 1892, p. 364 (Station 126, 1370 fathoms; Station 128, 902 fathoms). -- GOODE and BEAN, 1895, p. 156 (reference). -- ALCOCK, Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, 1896, p. 336 (reference); Cat. Deep Sea Fishes Indian Mus., 1899, p. 191 (Bay of Bengal off Andamans and Nicobars, 869 to 1045 fathoms; Arabian Sea off Lacca dives, 1045 fathoms; Gulf of Manar, 902 fathoms).

Family MACROCEPHENCHELYIDAE

Body greatly elongated. Head small, narrow, obtuse. Vent far advanced. Snout short, wide. Eye in front part of head. Mouth small, broad, not reaching beyond eye. Teeth form small dental areas, acute, small, numerous, crowded, in jaws and on vomer. No tongue. Front nostril tubular, near front of snout, lateral and hind nostril slit close above upper part of eye. Gill opening small slit, close below pectoral base. No scales. Lateral line complete. Dorsal origin advanced to middle of short trunk, confluent with caudal and anal. Pectorals present.

One genus. Related to the Leptocephalidae and Neenchelidae, differing in the entirely different aspect due to the very short muzzle, advanced eye, modified preorbital, thick lips, feeble dentition, reduced infero lateral gill openings below the pectorals, short mouth cleft and comparatively long pectorals.

Macrocephenchelys new genus

Type Macrocephenchelys branchialis new species.

Body long and with long though rather deep tapering tail, both well compressed. Head long, compressed. Combined head and trunk much less than half of tail. Snout short, very obtuse, with strong fleshy lateral expansion each side embracing long preorbital. Eye moderate, far forward, lateral. Mouth cleft short, wide, lower jaw little shorter than upper. Lips broad, fleshy, finely plaited. Teeth villiform, very small, pointed, form broad short bands in jaws, premaxillary group coextensive in broad upper band with vomerine. Front nostril in short tube at side of snout end, groove below; hind nostril simple rather large pore level and close before upper front eye edge, with slightly elevated cutaneous rim. On pharynx 3 or 4 impressions of branchial arches. Gill opening small close below pectoral base. Lateral line distinct. Body scaleless. Dorsal origin nearly midway in trunk, fin continuous with caudal and anal. Pectorals long, but little shorter than head.

Diagnosis. Known by its combination of characters, affording a very peculiar physiognomy, especially due to the very short muzzle, long pectorals, small trunk and long tapering tail.

Macrocephenchelys brachialis new species

Depth $1 \frac{4}{5}$ to 2 in head, $18 \frac{2}{5}$ to $25 \frac{4}{5}$ to caudal base; head $11 \frac{2}{5}$ to $12 \frac{2}{3}$, $3 \frac{1}{3}$ to $3 \frac{2}{5}$ to vent, width $2 \frac{1}{2}$ to $2 \frac{3}{4}$ in its length; combined head and trunk $2 \frac{2}{7}$ to $2 \frac{4}{5}$ in tail to caudal base. Snout 5 in head; eye 9, $1 \frac{2}{3}$ to $1 \frac{3}{4}$ in snout, greater than interorbital; mouth cleft reaches $\frac{1}{3}$ to $\frac{2}{5}$ in eye, length 4 to $4 \frac{3}{5}$ in head; interorbital $9 \frac{1}{2}$ to 10, level to slightly depressed. Gill opening 7 to $7 \frac{3}{4}$ in head.

Lateral line axial, prominent, complete.

Dorsal origin much nearer gill opening than vent, behind depressed pectoral, received in groove, fin height $3 \frac{1}{4}$ to 4 in head; anal received in groove, fin height $3 \frac{1}{4}$ in head; caudal 3 to 4, pointed; $1 \frac{1}{2}$ to $1 \frac{3}{5}$.

Light brown, belly and under surface of head scarcely paler. Iris grayish. Inside gill opening dusky. Peritoneum blackish.

Family DYSOMMIDAE

Mouth cleft extends far behind eye. Frontals ankylosed to form simple bone; suspensorium very obliquely backwards; palatopterygoid absent; vertebral column as in Muraenidae. Body naked. Pectorals present or absent. Vent not much removed from below gill openings.

Analysis of genera

- a¹. Dorsal begins some distance behind gill opening; no pectoral; vent near $3/4$ head length behind gill opening.

Dysommopsis.

- a². Dorsal begins close behind gill opening; pectoral well developed; vent close behind gill opening. Dysomma.

Genus Dysommopsis Alcock

Dysommopsis ALCOCK, Ann. Mag. Nat. Hist., ser. 6, vol. 8, 1891, p.

137. Type Dysommopsis muciparus ALCOCK, monotypic.

Dorsal begins some distance behind gill opening. No pectorals.

Vent nearly $3/4$ head length behind gill opening.

Dysommopsis muciparus Alcock

Dysommopsis muciparus ALCOCK, Ann. Mag. Nat. Hist., ser. 6, vol.

8, 1891, p. 137. N. $15^{\circ}56'50''$ E. $81^{\circ}30\frac{1}{2}'$, Bay of Bengal, 240

to 276 fathoms; Journ. Asiatic Soc. Bengal, vol. 65, pt. 2,

1896, p. 337 (reference).

Dysommopsis mucipara ALCOCK, Descr. Cat. Deep Sea Fishes Indian

Mus., 1899, p. 193 (types).

Genus Dysomma Alcock

Dysomma ALCOCK, Ann. Mag. Hist., ser. 6, vol. 4, 1889, p.

459. Type Dysomma bucephalus ALCOCK, monotypic.

Tail tapering. Snout short, projects beyond mouth and lower jaw. Eyes very small, subcutaneous. Mouth cleft wide. Small sharp teeth uniserial or extremely narrow band in each jaw; short row of large teeth on vomer. Tongue not free. Gill openings rather small, well separated, branchial openings in pharynx wide slits. Heart placed between gills. No scales. Lateral line of minute pores. Dorsal begins immediately behind gill openings. Anal begins close behind vent. Paired fins well developed. Vent placed immediately behind gill openings; between bases of pectoral fins.

Analysis of species

a¹. Depth 9 in total; head 4.

bucephalus.

a². Depth 20 in total; head 7.

anguillaris.

Dysomma bucephalus Alcock

Dysomma bucephalus ALCOCK, Ann. Mag. Nat. Hist., ser. 6, vol.

4, 1889, p. 459. N. 20°17' 30" E. 88°51', Bay of Bengal,

193 fathoms; ser. 6, vol. 8, 1891, p. 137, fig. 5 (type);

Illustrat. Zool. Investigator, pt. 1, 1892, pl. 6, fig. 1

(type); Journ. Asiatic Soc. Bengal, vol. 62, pt. 2, 1893, p.

184 (Bay of Bengal); vol. 65, pt. 2, 1896, p. 336 (reference);

Descr. Cat. Deep Sea Fishes Indian Mus., 1899, p. 192 (Bay of

Bengal, 112 to 250 fathoms).

Dysomma anguillaris Barnard

Dysomma anguillaris BARNARD, Ann. South African Mus., vol. 13,

pt. 8, 1923, p. 443. Off Tugela River mouth, Natal, 63 fath-

oms; vol. 21, pt. 1, 1925, p. 195, pl. 8, fig. 8 (type).

Family ECHELIDAE

Body elongate, worm like or slightly compressed, or short and much compressed. Snout rather short, more or less prominent by prominence of ethmoid the premaxillary plate beyond articulation with maxillaries. Eye large or small. Mouth cleft reaches beyond eye. Teeth in jaws in 1 or more series of bands, variable in form and size; on premaxillary in group or in rows, generally larger or even caniniform. Vomerine teeth present or absent. Tongue not free. Front nostril in short tube at edge of upper lip, hind one generally near eye in upper lip valve or protruding flap. Gill openings small, separated by interspace of different breadth. Branchial openings in pharynx wide slits. No scales. Dorsal, anal and caudal confluent. Dorsal origin above or far behind gill openings, before, above or behind vent. Pectoral well developed, vestigial or absent. Vent far behind gill openings, in front half of length.

Usually small plain colored eels, more or less suggestive of worms, living in coral reefs, on sandy shores or surface near them, in tropical seas.

Key to genera

a¹. Pectorals present.

b¹. Dorsal origin close behind pectoral base or
much nearer latter than vent.

c¹. End of snout below with teeth external to
closed jaws. Bathymyrus.

c². Teeth confined to jaws, not extending ex-
ternally on under surface of snout.

d¹. Teeth in jaws in cardiiform bands.

Echelus.

d². Teeth in jaws mostly biserial.

Paramyrus.

b². Dorsal origin midway between pectoral base
and vent, or nearer latter; teeth in jaws
variably biserial or triserial.

Myrophis.

a². No pectorals.

Muraenichthys.

Genus Bathymyrus Alcock

Bathymyrus ALCOCK, Journ. Asiatic Soc. Bengal, vol. 58, pt. 2,

p. 1889, p. 305. Type Bathymyrus echinorhynchus ALCOCK, mono-

typic.

Body cylindrical, little shorter than compressed tail. Head cylindrical, slightly tapering. Snout projects beyond lower jaw, tip formed by massive upward and lateral expansion, studded with small curved teeth of premaxillaries. Eye moderate. Mouth cleft moderate. Single series of close set, uniform, small, sharp teeth in jaws. Few similar teeth on vomer at junction with premaxillaries and cluster of sharp down curved teeth on extra oral expansion of premaxillaries. Tongue long, attached up to tip by extensible frenum. Nostrils labial, in contact with edge of upper lip, anterior tubular near snout end, posterior valved before lower front eye edge. Gill openings extend obliquely from upper edge of pectoral base almost to middle line of abdomen, interspace narrow. Branchial openings wide slits in pharynx. Branchiostegal region $1/3$ of head. Oblique bony stay across opercle. No scales. Dorsal begins close behind gill opening, fin confluent with caudal and anal. Pectoral longer than body depth.

One species, India.

Bathymyrus echinorhynchus Alcock

Bathymyrus echinorhynchus ALCOCK, Journ. Asiatic Soc. Bengal,

vol. 58, pt. 2, 1889, p. 305, pl. 22, fig. 6. Sixteen miles

east of the mouth of Devi river in the Mahanaddi delta in 68

fathoms; vol. 65, pt. 2, 1896, p. 337 (reference).

Depth $2 \frac{3}{4}$ in head; head, excluding branchiostegal region, 7 in total; head and trunk 2 in tail. Snout 6 in head to gill opening above; eye $6 \frac{2}{3}$, $1 \frac{1}{8}$ in snout; mouth cleft reaches hind eye edge, length 3 in head; interorbital low. Gill opening about 4.

Dorsal rather low, begins close behind pectoral base; caudal well developed, tip truncate; pectoral placed in upper half of body depth, length $2 \frac{1}{4}$ in head.

Transparent gray, with numerous specks of black. Length 267 mm.
(Alcock.)

Bay of Bengal.

Genus Echilus Rafinesque

Echelus RAFINESQUE, Carr. Nuov. Piant. Animal Sicil., 1810, p.

63. Type Echelus punctatus RAFINESQUE, designated by BLEEKER,

Atlas Ichth. Ind. Néerland., vol. 4, 1864, p. 20.

Myrus KAUP, Cat. Apodal Fish Brit. Mus., 1856, p. 31. Type

Muraena myrus LINNAEUS, monotypic.

Body elongate, subterete. Tail longer than rest of body. Teeth in jaws in cardiform bands. Vomer with teeth. Nostrils on or very close to edges of upper lip, front one tubular, hind one lobed. Vertical and pectoral fins well developed.

Dorsal begins close behind pectoral base. Caudal very short.

Echelus uropterus (Schlegel)

Conger uropterus SCHLEGEL, Fauna Japonica, Poiss., pts. 10 to 14,
1846, p. 261. Seas of Japan.

Ophisurus uropterus BLEEKER, Act. Soc. Sci. Ind. Neerland., (Japan 4), vol. 3, p. 28; vol. 5, , pl. 1, fig. 1 ;
Verh. Batav. Genootsch. (Nat. Ich. Jap.), vol. 25, 1853, p. 19
(reference).

Myrus uropterus GUNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p.
50 (no locality). -- NYSTROM, Bihong Kong. Svenske Vet. Akad.
Handl. Stockholm, 1887, p. 46 (Nagasaki). -- JORDAN and SNYDER,
Proc. U. S. Natl. Mus., vol. 23, 1901, p. 861 (compiled).

Genus Paramyrus Günther

Paramyrus GÜNTHER, Cat. Fishes Brit. Mus., vol. 8, 1860, p. 51.

Type Conger cylindroideus RANZANI, designated by JORDAN and

DAVIS, Rep. U. S. Fish Comm., pt. 16, 1888 (1892), p. 641.

Body well elongate, cylindrical, compressed posteriorly. Vent near first third in length. Snout projects beyond lower jaw. Mouth cleft extends to hind edge of eye or beyond. Teeth in jaws mostly biserial, also present on vomer. Nostrils on edge of upper lip, anterior in broad tube near snout tip, posterior in pendulous valve slightly before vertical through eye. Gill openings small, separated by broad isthmus. No scales. Lateral line present. Dorsal origin over pectorals. Dorsal, anal and caudal confluent. Pectorals present.

Celebes, Tonga, Brazil.

Analysis of species

a¹. No black dots or spots along side of abdomen.

microchir.

a². Row of contrasted black dots or spots along
each side of abdomen.

kellersi.

Paramyrus microchir (Bleeker)

Echelus microchir BLEEKER, Nederland Tijds. Dierk., vol. 2,

1865, p. 40. Macassar, Celebes; Atlas Ichth. Ind. Neer-

land., vol. 4, 1864, p. 30, pl. (45) 189, fig. 4 (type).

Paramyrus microchir GUNTHER, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 51 (type). -- WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 273, figs. 121-122

(type).

Paramyrus kellersi Fowler

Paramyrus kellersi FOWLER, Proc. U. S. Nat. Mus., vol. 81, art. 8,

1932, p. 1, fig. 1. Ninafoon, Tonga Group.

Depth $22 \frac{2}{5}$, $7 \frac{3}{5}$ to vent; head $2 \frac{1}{4}$, $6 \frac{2}{3}$ to caudal base, combined head and trunk to vent $2 \frac{9}{10}$ in tail to caudal base; head width $3 \frac{3}{5}$ in its length.

Snout 4 in head; eye $6 \frac{3}{4}$, $1 \frac{1}{2}$ in snout, little greater than interorbital; maxillary reaches opposite hind eye edge, length from snout tip $2 \frac{4}{5}$ in head; teeth very minute, simple, conic, edges entire, uniserial at sides of jaw and at least 2 series anteriorly in each; premaxillary teeth scarcely large, similar and would form as several irregular series; tongue free; front nostril near snout tip in short tube, hind nostril in upper lip opposite front eye edge; interorbital $7 \frac{1}{2}$ in head, low. Gill opening very small slit, largely below and before pectoral.

Lateral line distinct.

Dorsal begins about over middle of pectoral, rather low, confluent with caudal and anal; caudal $4 \frac{1}{2}$ in head; pectoral $3 \frac{1}{2}$.

Uniform brown above, under surface of head and belly whitish. Along each side of belly a single row of black dots, fading out along front of anal. Head now largely pale or whitish, largely on account of macerated skin.

Tonga Group.

91870 U. S. N. M. Ninafoon Island, Tonga Group.

Sept. 17, 1930. Length 60 mm. Type.

Genus Muraenichthys Bleeker

Muraenichthys BLEEKER, Verh. Batav. Genootsch. (Muraen.), vol.

25, 1853, p. 71. Type Muraena gymnopterus BLEEKER.

Scolenchelys OGILBY, Proc. Linn. Soc. New South Wales, vol. 22,

1897, (1898), p. 246. Type Muraenichthys australis MACLEAY.

Myropterura OGILBY, Proc. Linn. Soc. New South Wales, vol. 22,

1897, (1898), p. 247. Type Myropterura laticaudata OGILBY,

monotypic.

Body very long, cylindrical, sometimes worm like. Head usually ill defined, small or moderate. Snout somewhat protrudes beyond lower jaw, conic, small. Eye small, well advanced. Mouth cleft usually extends behind eye. Teeth in jaws and on vomer. Nostrils on edge of upper lip, front one ~~in tube~~, posterior at base of pendulous flap. Gill openings very small, lateral, separated by broad isthmus. Lateral line axial. Dorsal origin far behind gill openings, before, above or slightly behind vent. Vertical fins confluent, usually low. No pectoral.

Small worm like eels of the Indo Pacific, living in the sea near shore, pelagic or found about reefs and sandy shores. In the following key as I have been unable to consult the description of Muraenichthys godeffroyi Regan, I have been unable to insert it.

The following imperfectly described and therefore doubtful:

Muraenichthys moorii Günther

Muraenichthys moorii GÜNTHER, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 53. Locality?

Body very slender; head $3\frac{1}{2}$ to vent; tail little longer than body. Snout rather obtuse, not quite twice long as eye; mouth cleft extending somewhat behind eye; front lower teeth, also vomerine, biserial, others uniserial.

Dorsal begins opposite vent, vertical fins low. Length 190 mm.
(Günther).

Analysis of species

- a¹. Dorsal origin midway or more advanced in space between gill opening and vent.
- b¹. Dorsal origin at first fourth between gill opening and vent.
- c¹. Head 4 1/2 to vent. ogilbyi.
- c². Head 4 to vent. devisi.
- b². Dorsal origin at first 1/3 to 2/5 between gill opening and vent.
- d¹. Head 3 4/5 to vent; dorsal origin slightly before first third in trunk. breviceps.
- d². Head 2 to 2 1/5 to vent; dorsal origin at first 2/5 in trunk. macropterus.
- b³. Dorsal origin nearly midway between gill opening and vent.
- e¹. Head 2 2/3 to vent; mouth cleft 2 4/5 in head, eye little premedian. thompsoni.
- e². Head 2 4/5 to vent; mouth cleft 3 2/5 in head, eye nearly median. malabonensis.
- e³. Head 3 1/4 to vent; mouth cleft 4 in head, eye postmedian. nicholsae.

a². Dorsal begins slightly before (last 2/5), above or behind vent.

f¹. Combined head and body 1 1/2 times or less in tail.

g¹. Head 7 to more than 9 2/3 in total.

h¹. Depth 20 to 30, 3 2/5 to 4 in head; head 7 to 8 1/4 in total.

i¹. Eye postmedian in mouth cleft.

j¹. Mouth cleft 3 1/2 in head; vomerine teeth biserial or triserial.

schultzei.

j². Mouth cleft 3 to 3 1/2 in head; vomerine teeth biserial; dorsal origin over head length behind anal origin.

retropinna.

j³. Mouth cleft 5 in head; vomerine uniserial.

vermiformis.

i². Eye premedian in mouth cleft.

k¹. Mouth cleft 3 1/3 in head.

gymnopterus.

k². Mouth cleft 3 in head.

macrostomus.

k³. Mouth cleft 2 1/2 in head.

elerae.

h^2 . Depth 37 or 38, $3 \frac{2}{5}$ to $3 \frac{2}{3}$ in head; head
8 to $9 \frac{2}{3}$ in total.

l^1 . Snout broad, depressed, 6 in head;
mouth cleft $3 \frac{1}{3}$ in head extends
little behind eye. cookei.

l^2 . Snout narrowly pointed, $5 \frac{2}{3}$ in
head; mouth cleft 4 in head, ex-
tends well behind eye. huysmani.

h^3 . Depth 40 to 48, $4 \frac{1}{2}$ in head, $4 \frac{1}{2}$ in
head; mouth cleft $2 \frac{4}{5}$.

acutirostrostris.

g^2 . Head more than 10 in total.

m^1 . Head less than 5 to vent.

n^1 . Amboina, Red Sea; teeth on vomer
uniserial. gymotus.

n^2 . Japan. aoki.

m^2 . Head 5 or more to vent.

o^1 . Eye less than 3 in snout; vom-
erine teeth uniserial.

p^1 . Eye 2 in snout. iredalei.

p^2 . Eye $2 \frac{2}{3}$ in snout.

australis.

o^2 . Eye more than 3 in snout.

q^1 . Dorsal origin not quite
snout length behind anal
origin. oliveri.

q². Dorsal origin nearly
head length behind
anal origin.

tasmaniensis.

f². Combined head and body twice in tail.

sibogae.

Muraenichthys ogilbyi Fowler

Muraenichthys ogilbyi FOWLER, Proc. Acad. Nat. Sci. Philadelphia,

1907, p. 423, fig. 3. Victoria, Australia; 1912, p. 13 (type).

Muraenichthys devisi Fowler

Muraenichthys devisi FOWLER, Proc. Acad. Nat. Sci. Philadelphia,

1907, p. 421, fig. 2. Victoria, Australia; 1912, p. 13 (type).

Muraenichthys breviceps Günther

Muraenichthys breviceps GÜNTHER, Ann. Mag. Nat. Hist., ser. 4,

vol. 17, 1876, p. 401. Tasmania (Allport). -- MACLEAY, Proc.

Linn. Soc. New South Wales, vol. 6, pt. 2, 1882, p. 273 (com-

piled). -- MC CULLOCH, Zool. Res. Endeavour, vol. 1, 1911, p.

21, fig. 7 (head) (south of St. Francis Island, South Australia).

-- WAITE, Records South Austral. Mus., vol. 2, No. 1, April 23,

1921, p. 50 (reference).

Muraenichthys macropterus (not BLEEKER) KLUNZINGER, Archiv Naturg.,

vol. 38, pt. 1, 1872, p. 43.

Muraenichthys macropterus Bleeker

Muraenichthys macropterus BLEEKER, Act. Soc. Sci. Ind. Neerland.,

No. 7, vol. 12, 1857, p. (8) 91. Amboina; Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 31, pl. (7) 151, fig. 3 (Solor;

Amboina). -- GÜNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p.

52 (type). -- STEINDACHNER, Sitz. Ber. Akad. Wiss. Wien, Math.-

naturw. Kl., vol. 60, pt. 1, 1870, p. 571 (Singapore). --

MARTENS, Preuss. Exped. Ost-Asien, vol. 1, 1876, p. 406 (Tern-

ate). -- KLUNZINGER, Sitz. Ber. Akad. Wiss. Wien, Math.-naturw.

Kl., vol. 80, pt. 1, 1879, p. 419 (Port Philip, Murray River).

-- GORGOZA, ~~Anal.~~ Soc. Espan. Hist. Nat. Madrid, vol. 14, 1885,

p. 74 (Paragua). -- ELERA, Cat. Fauna Filip., vol. 1, 1895, p.

588 (Puerta Princesa; Paragua). -- OGILBY, Proc. Linn. Soc. New

South Wales, vol. 22, 1897, p. 770 (New Caledonia). -- JORDAN and

SEALE, Proc. U. S. Nat. Mus., vol. 28, 1905, p. 772 (Negros); Bull.

Bur. Fisher., vol. 25, 1905, (1906), p. 396 (New Caledonia). --

- GÜNTHER, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 306
(Tongatabu). -- KENDALL and GOLDSBOROUGH, Mem. Mus. Comp. Zool.,
vol. 28, 1911, p. 245 (Arno Atoll, Marchall Atoll). -- WEBER and
BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 275
(Banda, Flores, Caman). -- HERRE, Philippine Journ. Sci., vol. 23,
No. 2, August 1923, p. (Mindoro; Lingayan). -- FOWLER, Bull.
Bishop Mus., vol. 22, 1925, p. 5 (Guam). -- DERANIYAGALA, Ceylon
Administrat. Rep., 1925, p. F15. -- FOWLER, Mem. Bishop Mus., vol.
10, 1928, p. 40 (type *Echidna uniformis*; Guam; Arno Atoll); vol.
11, No. 5, 1931, p. 316 (reference).
- Echidna uniformis SEALE, Occas. Pap. Bishop Mus., vol. 1, No. 3, 1900
(1901), p. 62. Guam.
- Muraenichthys owstoni JORDAN and SNYDER, Proc. U. S. Nat. Mus., vol.
23, 1901, p. 862, fig. 11. Yaeyama, southern Ruikiu. -- FRANZ,
Abh. Kpn. Bayer. Akad. Wiss., vol. 4, Suppl. band 1, 1910, p. 12
(Sagami Bay).
- Muraenichthys la bialis SEALE, Bull. Mus. Comp. Zool., vol. 61, No. 4,
May 1917, p. 80. Arhno Atoll, Marchalls.

Depth 23 to 24; head $8 \frac{1}{4}$ to $8 \frac{7}{8}$, $3 \frac{1}{5}$ to $3 \frac{1}{2}$ in trunk, width $4 \frac{1}{2}$ to $4 \frac{7}{8}$ its length; combined head and trunk $1 \frac{1}{2}$ to $1 \frac{2}{3}$ in tail. Snout 5 to $5 \frac{7}{8}$ in head; eye 11 to 13, $2 \frac{1}{4}$ to $2 \frac{3}{4}$ in snout, 2 to $2 \frac{1}{5}$ in interorbital; mouth cleft extends $1 \frac{1}{2}$ to 2 eye diameters behind eye, length $2 \frac{3}{4}$ to $3 \frac{1}{8}$ in head; teeth biserial in jaws, small, subconic; 2 series of small close set similar teeth on vomer; interorbital $7 \frac{7}{8}$ to $8 \frac{1}{5}$, low, convex. Gill opening $9 \frac{1}{4}$ to 13.

Lateral line distinct.

Dorsal origin midway between eye center and gill opening or little nearer latter; vertical fins all low folds.

Uniform brown, or only under surface of head and belly slightly paler. Iris grayish.

Ceylon, Singapore, East Indies, Philippines, Rui Kiu, Japan, Victoria, Melanesia, Micronesia, Polynesia.

2 examples. Batan Island, tide pools. June 5, 1909. Length 70 to 81 mm.

5622. Caxisigan Island, off Balabac. January 2, 1909. Length 193 mm.

21781. Cebu market. March 20, 1909. Length 191 mm.

5098. Cebu market. April 5, 1908. Length 77 mm.

8148. Cebu market. August 24, 1909. Length 211 mm.

D. 5431. Corandogos Island (NW.), N. 28° E. 4.8 miles (N. $10^{\circ}38'45''$ E. $120^{\circ}12'45''$), eastern Palawan and vicinity. In 51 fathoms. April 8, 1909. Length 120 to 138 mm. 5 examples.

D. 5433. Corandoagos Island (NW.), N. 35° E. 6.5 miles (N. $10^{\circ}37'30''$ E. $120^{\circ}11'5''$), eastern Palawan and vicinity. In 54 fathoms. April 8, 1909. Length 124 to 135 mm. 2 examples.

1 example. Endeavor Strait, Palawan. December 23, 1908. Length 86 mm.

4 examples. Great Tobea Island, tide pool. December 15, 1909. Length 85 to 110 mm.

2 examples. Gubat Bay, Luzon. June 23, 1909. Length 90 to 96 mm.

2205. D. 5393. Panganalan Point, Talajit Island, S. 59° E., 14.8 miles (N. $12^{\circ}3'30''$ E. $124^{\circ}3'36''$), between Samar and Masbate. In 136 fathoms. March 13, 1909. Length 155 mm.

1 example. Reef opposite Cebu. April 5, 1908. Length 73 mm.

1 example. Sacol Island. Sept. 8, 1909. Length 49 mm.

1 example. San Pascual. May 8, 1909. Length 51 mm.

D. 5208. Taratara Island (N.), S. $67^{\circ}39'$ E., 4.10 miles (N. $11^{\circ}45'53''$ E. $124^{\circ}42'50''$), off western Samar. In 26 fathoms. April 14, 1908. Length 88 mm.

12561 and 12562. Apra Bay, Guam. November 19 to 21, 1907. Length
118 to 161 mm.

Muraenichthys thompsoni Jordan and Richardson

Muraenichthys thompsoni JORDAN and RICHARDSON, Bull. Bur. Fisher.,
vol. 27, 1907 (1908), p. 237, fig. 1. Manila Bay.

Muraenichthys malabonensis Herre

Muraenichthys malabonensis HERRE, Philippine Journ. Sci., vol.

23, No. 2, August 1923, p. 157, pl. 2, fig. 1. Malabon, Rizal

Province, Manila Bay. -- CHEN, Bull. Biol. Dep. Sun Yat Sen

Univ., vol. 1, No. 1, 1929, p. 15, fig. 7 (not 8 as numbered)

(dentition) (Hoihow). -- FOWLER, Hong Kong Naturalist, vol. 3,

No. 1, March 1932, p. 56 (compiled).

The single poorly preserved example will hardly admit description.

D. 5432. Corandagos Island (NW.), N. 30° E., 5.7 miles (N. $10^{\circ}37'$
 $50''$ E. $120^{\circ}12'$), eastern Palawan. In 51 fathoms. April 8, 1909.

Length 94 mm., very poor condition.

Muraenichthys nicholsae Waite

Muraenichthys nicholsae WAITE, Records Austral. Mus., vol.

5, 1904, p. 142, pl. 17, fig. 1. Lord Howe Island.

Muraenichthys schultzei Bleeker

Muraenichthys schultzei BLEEKER, Naturk. Tijds. Nederland Indië,

vol. 13, 1857, p. 366. Karangbollong, Java; Atlas Ichth. Ind.

Neerland, vol. 4, 1864, p. 33, pl. (4) 148, fig. 3 (type). --

DAY, Fishes of India, pt. 4, 1878, p. 663; Fauna Brit. India,

vol. 1, 1889, p. 93, fig. 40. -- KENDALL and GOLDSCOROUGH, Mem.

Mus. Comp. Zool., vol. 26, 1911, p. 245 (Funafuti, Ellice Is-

lands). -- WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 45

(Noimini Bay; Timor). -- WEBER and BEAUFORT, Fishes Indo Aust-

ral. Archipelago, vol. 3, 1916, p. 277, fig. 123 (head) (Am-

bon; Timor). -- FOWLER and BALL, Bull. Bishop Mus., No. 26,

1925, p. 5 (Johnston Island). -- FOWLER, Mem. Bishop Mus.,

vol. 10, 1928, p. 41 (Johnston Island; Funafuti).

Muraena polyzona (not) DAY, Fishes of India, pt. 4, 1878,

pl. 169, fig. 3 (transposed).

Depth $19 \frac{1}{2}$ to 27; head $6 \frac{7}{8}$ to $7 \frac{1}{2}$, $2 \frac{3}{4}$ to 3 to vent, width $4 \frac{1}{2}$ to $5 \frac{1}{2}$ its length; combined head and trunk $1 \frac{1}{3}$ to $1 \frac{2}{5}$ in tail. Snout $5 \frac{1}{2}$ to $6 \frac{1}{3}$ in head; eye $10 \frac{2}{3}$ to 13, 2 to $2 \frac{1}{4}$ in snout, 2 in interorbital; mouth cleft extends $1 \frac{3}{4}$ to 2 eye diameters behind eye, length $2 \frac{7}{8}$ to $3 \frac{1}{8}$ in head; teeth small, pointed, subequal, in rather broad bands in jaws and at least 2 series on vomer; interorbital 6 to $6 \frac{1}{4}$, depressed or nearly level. Gill opening slightly less than eye, at upper level in lower half of body depth.

Lateral line distinct, complete.

Dorsal origin about over anal origin, fins low feeble folds with anal little higher, caudal very short.

India, Andamans, East Indies, Philippines, Polynesia.

10011. D. 5273. Corregidor Light, N. 27 E., 27.25 miles (N. 13 58' 45" E. 120 21' 35"), China Sea vicinity southern Luzon. in 114 fathoms. July 14, 1908. Length 91 mm.
22475. Romblon. March 25, 1908. Length 102 mm.

Muraenichthys retropinnis new species

Depth $29 \frac{1}{2}$ to 33; head $9 \frac{2}{3}$ to $9 \frac{3}{4}$, $3 \frac{1}{2}$ to vent, width $4 \frac{2}{3}$ to $5 \frac{1}{4}$ its length; combined head and trunk from $\frac{1}{5}$ greater than rest of body to $1 \frac{3}{4}$ in tail. Snout 5 to $5 \frac{3}{4}$ in head; eye 12 to 15, $1 \frac{7}{8}$ to 2 in snout, $1 \frac{2}{5}$ to $1 \frac{1}{2}$ in interorbital; mouth cleft reaches $1 \frac{1}{2}$ to 2 eye diameters behind eye, length $3 \frac{1}{10}$ to $3 \frac{1}{2}$ in head; teeth small, simple, pointed in jaws, uniserial: 2 short rows of fine teeth at front of vomer; interorbital $7 \frac{1}{4}$ to $7 \frac{2}{5}$, convex. Gill opening about equals eye.

Lateral line distinct, complete.

Dorsal begins behind vent space equal to $1 \frac{2}{5}$ to $1 \frac{1}{2}$ head lengths; vertical fins as very low feeble confluent fold. No pectoral.

Uniform brown. Iris gray.

Diagnosis. Known chiefly by the posterior insertion of its dorsal fin, this over a head length behind that of anal. Other characters are its uniserial jaw teeth, eye postmedian over the mouth cleft and pointed snout. It differs from Muraenichthys schultzei chiefly in its more backward dorsal origin.

Type No.

U. S. N. M.

D. 5206. Badian Island (N.), N. 27° E., 5.75 miles (N. $11^{\circ} 31' 40''$ E. $124^{\circ} 42' 40''$), off western Samar. In 32 fathoms. Length 87 mm.

1 example. Binanga, China Sea. January 8, 1908. Length 66 mm.

1 example. Camp Overton, Mindanao. August 15, 1909. Length 57 mm.

1 example. Taal Anchorage. February 20, 1909. Length 120 mm.

D. 5208. Taratara Island (N.), S. $67^{\circ} 30'$ E., 4.10 miles (N. $11^{\circ} 45' 53''$ E. $124^{\circ} 42' 50''$), off western Samar. In 26 fathoms.

April 14, 1908. Length 114 mm. Type.

(Retro, backward; pinna, fin.)

Muraenichthys vermiformis (Peters)

Chilorhinus (Muraenichthys) vermiformis PETERS, Monatsb. Akad. Wiss.

Berlin, 1866, p. 524. Ceylon.

Ophisurus vermiformis BLEEKER, Verh. Batav. Genootsch. (Nal. Ich.

Bengal), vol. 25, 1853, p. 78 (reference).

Muraenichthys vermiformis GÜNTHER, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 53 (compiled). -- DAY, Fishes of India, pt. 4, 1878, p.

93.

Head $3 \frac{2}{3}$ to vent, $8 \frac{2}{3}$ in total; body $1 \frac{2}{5}$ in tail. Snout less than 2 eye diameters; mouth cleft reaches eye diameter behind eye, length $5 \frac{1}{2}$ in head; teeth uniserial in jaws and on vomer. Gill opening 4? in head.

Dorsal and anal very low, first shorter.

Colorless. Length 95.5 mm. (Peters.)

Ceylon.

Muraenichthys gymnopterus (Bleeker)

Muraena gymnopterus BLEEKER, Verh. Batav. Genootsch. (Muraen.), vol.

25, 1853, p. 52. Batavia, Java.

Muraenichthys gymnopterus KAUP, Archiv Naturg., 1856, p. 30 (same

localities). -- BLEEKER, Atlas Ichth. Ind. Néerland, vol. 4, 1864,

p. 32, pl. (6) 150, fig. 1 (Java, Celebes, Batu). -- SCHMELTZ, Cat.

Mus. Godeffroy, No. 4, 1869, p. 26 (Kandavu). -- GUNTHER, Cat. Fishes

Brit. Mus., vol. 8, 1870, p. 52 (types of Muraenichthys gymnopterus

and Muraenichthys microstomus). -- SCHMELTZ, Cat. Mus. Godeffroy, No.

5, 1874, p. 37 (Ovalau). -- RUTTER, Proc. Acad. Nat. Sci. Philadel-

phia, 1897, p. 61 (Swatow). -- JORDAN and Seale, Bull. Bur. Fisher,

vol. 26, 1906 (1907), p. 6 (Cavite). -- GUNTHER, Journ. Mus. Gode-

ffroy, vol. 9, pt. 17, 1910, p. 396 (Kandavu). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 276 (Makassar).

-- HERRE, Philippine Journ. Sci., vol. 23, Aug. 1923, p. 155, fig.

2 (teeth) (Mindoro; Dugupan). --

DERANIYAGALA, Ceylon Administr. Rep., 1925, p. F15. -- FOWLER,
Proc. Acad. Nat. Sci. Philadelphia, 1927, p. 259 (San Fernando;
Orani); Mem. Bishop Mus., vol. 10, 1928, p. 40 (Hawaiian Islands).
-- CHEN, Bull. Biol. Dep. Sun Yat Sen Univ., vol. 1, No. 1, 1929
p. 14, pl. 1, fig. 1 (anterior body) fig. 1a (dentition) (Ying
Khow, Kwang tung).

Muranenichthys microstomus BLEEKER, Nederland. Tijds. Dierk., vol. 2,
1865, p. 39. Macassar, Celebes; Atlas Ichth. Ind. Néerland, vol. 4,
1864, p. 32, pl. (6) 150, fig. 2 (type).

Myropterura laticaudata OGILBY, Proc. Linn. Soc. New South Wales, vol.
22, 1897 (1898), p. 247. Fidji Islands.

Muraenichthys hattae JORDAN and SNYDER, Proc. U. S. Nat. Mus., vol. 23,
1901, p. 862, fig. 12. Wakanoura, Japan.

Depth $25 \frac{2}{5}$ to $27 \frac{7}{8}$; head $6 \frac{7}{8}$ to $7 \frac{1}{8}$, $2 \frac{4}{5}$ to vent, width 5 to $6 \frac{7}{8}$ its length; combined head and trunk $1 \frac{2}{5}$ to $1 \frac{1}{2}$ in tail. Snout $7 \frac{7}{8}$ to $8 \frac{3}{4}$ in head; eye 16 to $17 \frac{1}{4}$, 2 to $2 \frac{1}{4}$ in snout, 2 to $2 \frac{1}{5}$ in interorbital; mouth cleft extends $1 \frac{3}{4}$ eye diameters behind eye, length $3 \frac{2}{3}$ to 4 in head; teeth fine, simple, conic, in narrow bands of several series anteriorly and narrowing posteriorly, on vomer biserial; interorbital 9 to $10 \frac{1}{4}$, convex. Gill opening 12 to $14 \frac{1}{2}$, in lower half of body depth.

Lateral line distinct, incomplete posteriorly.

Dorsal origin at last $\frac{2}{5}$ to $\frac{4}{9}$ between gill opening and vent; vertical fins rather low fold around end of tail.

Brown. Iris dark gray. Fins dull or pale brown.

East Indies, Philippines, China, Japan, Polynesia.

22985. Cebu market. March 22, 1909. Length 176 mm.

8147. Cebu market. August 29, 1909. Length 222 mm.

11003, 11006. Iloilo market, Panay. March 29, 1908. Length
179 to 240 mm.

2 examples. Port Dupon, Leyte. March 17, 1909. Length 125 to
167 mm.

D. 5220. Lan Andreas Island (W.), S. 57° W., 8.50 miles (N. 13°
 $38'$ E. $121^{\circ} 58'$), between Marinduque and Luzon. In 50 fathoms.
April 24, 1908. Length 183 mm.

1836. D. 358. Sandakan Light, S. 34° W., 19.7 miles (N. $6^{\circ} 6'$
 $40''$ E. $118^{\circ} 18' 15''$), Jolo Sea. In 39 fathoms. January 7, 1908.
Length 150 mm.

Muraenichthys macrostomus Bleeker

Muraenichthys macrostomus BLEEKER, Nederland. Tijds. Dierk., vol. 2, 1865, p. 38. Amboina; Atlas Ichth. Ind. ~~N~~eerland., vol. 4, 1864, p. 33, pl. (41) 185, fig. 1 (type). -- GUNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 53 (type). -- WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 46 (Amboina; south coast Timor). -- WEBER and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 278, fig. 125 (head) (above materials).

Muraenichthys elerae new species

Depth $34 \frac{3}{4}$; head $8 \frac{1}{2}$, $3 \frac{2}{5}$ to vent, width $4 \frac{1}{5}$ its length; combined head and trunk $1 \frac{1}{3}$ in tail. Snout $6 \frac{1}{3}$ in head; eye 20, $3 \frac{1}{8}$ in snout, $2 \frac{1}{2}$ in interorbital; mouth cleft extends 4 eye diameters behind eye, length $2 \frac{1}{2}$ in head; teeth uniserial, small, pointed, in jaws, sometimes little irregular in places; vomerine teeth similar, biserial in front and then uniserial; interorbital $7 \frac{1}{4}$, broadly convex. Gill opening in lower half of body depth, about twice long as eye.

Lateral line distinct, complete.

Dorsal origin advanced before anal origin for space about equal to postocular length of head. Vertical fins low feeble fold around end of tail.

Uniform brown, scarcely paler on under surface of head and belly. Iris dark gray. Fins pale.

Diagnosis. Apparently related to Muraenichthys macrostomus Bleeker, though differing in its dorsal origin at last third of trunk, its much longer mouth cleft and body $1 \frac{1}{3}$ in tail. It also differs from M. thompsoni Jordan and Richardson and M. malabonensis Herre in much the same way.

Type No.

U. S. N. M.

2369. D. 5131. Island off Panabutan Point, N. 20° E., 0.40 mile, Sulu Sea off western Mindanao. In 27 fathoms. February 6, 1909. Length 156 mm.

Muraenichthys cookei Fowler

Muraenichthys cookei FOWLER, Mem. Bishop Mus., vol. 10, 1928, p.

41, fig. 9. Milaekahana, Oahu.

Muraenichthys hysmani (Weber)

Sphagebranchus hysmani WEBER, Siboga Exp., vol. 57, Fische, 1913,

p. 48, fig. 10 (head). Molo Strait, 69 to 91 meters.

Muraenichthys hysmani WEBER and BEAUFORT, Fishes Indo Austral. Arch-

ipelago, vol. 3, 1916, p. 278, fig. 126 (copied; type).

Muraenichthys acutirostris Weber and Beaufort

Muraenichthys acutirostris WEBER and BEAUFORT, Fishes Indo Austral.

Archipelago, vol. 3, 1916, p. 279, fig. 127 (head). Amboin.

Muraenichthys gymnotus Bleeker

Muraenichthys gymnotus BLEEKER, Act. Soc. Sci. Ind. Néerland,

(Ambon. 8), Vol. 2, 1857, p. 90. Amboyna; Atlas Ichth. Ind.

Néerland, vol. 4, 1864, p. 33, pl. (6) 150, fig. 3, (type).

-- GUNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 53 (type).

-- KLUNZINGER, Verh. zool. bot. Ges. Wien, vol. 21, 1871, p. 608

(Red Sea). -- WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 46

- (Obi major; south east Timor); WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 277 (compiled).

Depth 37; head $10 \frac{2}{5}$, $5 \frac{1}{8}$ to vent, width 5 its length; combined head and trunk $1 \frac{1}{8}$ in tail. Snout 6 in head; eye 19, $3 \frac{3}{5}$ in snout, $2 \frac{1}{2}$ in interorbital; mouth cleft extends eye diameter behind eye, length $4 \frac{1}{5}$ in head; teeth small, conic, pointed, uniserial in jaws and on vomer; interorbital 10, convex. Gill opening $11 \frac{1}{2}$, low in lower half of body depth.

Lateral line distinct.

Dorsal origin begins behind anal space equal to postrictal region of head. Vertical fins low feeble fold continuous around end of tail.

Brown, under a lens shaded with darker dots over upper surface. Iris gray. Fins uniformly pale. Pharynx pale.

Red Sea, East Indies, Philippines. Of all the species examined this has the most robust tail, little compressed, nearly wide as deep and all four sides more or less flattened.

2933. Tubig Point, N. 49° E., 5 miles (N. $12^{\circ} 12' 35''$ E. $124^{\circ} 2' 48''$), between Samar and Masbate. In 135 fathoms. March 13, 1909. Length 314 mm.

Muraenichthys aoki Jordan and Snyder

Muraenichthys aoki JORDAN and SNYDER, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 863, fig. 13. Misaki.

Muraenichthys iredalei Whitley

Muraenichthys iredalei WHITLEY, Rec. Australian Mus., vol. 16, pt. 1, Oct. 7, 1927, p. 5, fig. 1. Michaelmas Cay, Queensland.

Muraenichthys australis Macleay

Muraenichthys australis MACLEAY, Proc. Linn. Soc. New South Wales, vol. 6, pt. 2, 1882, p. 272. Lane Cove, Port Jackson. -- MC
CULLOCK, Zool. Res. Endeavour, vol. 1, 1911, p. 20, fig. 6 (head)
(type; Port Jackson); Austral. Mus. Mem., vol. 5, pt. 1, June 29, 1929, p. (type).

Muraenichthys gymnotus (not BLEEKER) GUNTHER, Rep. Voy. Challenger, vol. 1, pt. 6, 1880, p. 30 (Port Jackson).

Muraenichthys oliveri Waite

Muraenichthys oliveri WAITE, Trans. New Zealand Inst., vol. 42, 1909

(1910), p. 374, pl. 35, fig. 2. Kermadec Islands.

Muraenichthys tasmaniensis Mc Cullock

Muraenichthys tasmaniensis MC CULLOCK, Zool. Res. Endeavour, vol. 1,

1911, p. 19, fig. 5 (head). Oyster Bay, Tasmania.

Muraenichthys sibogae Weber and Beaufort

Muraenichthys sibogae WEBER and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 276. Obi major; southern Timor.

Depth $34 \frac{3}{4}$; head $9 \frac{3}{4}$, $3 \frac{1}{6}$ to vent, width 4 in its length; combined head and trunk 2 in tail. Snout $5 \frac{1}{4}$ in head; eye 13, $2 \frac{1}{4}$ in snout, $1 \frac{1}{2}$ in interorbital; mouth cleft extends about eye diameter behind eye, length $3 \frac{2}{5}$ in head; teeth simple, minute, in narrow bands in jaws and on vomer; interorbital, $7 \frac{1}{5}$, broadly convex. Gill opening equals eye, within lower half of body depth.

Lateral line distinct, complete.

Dorsal origin advanced from anal origin space about equal to mouth cleft. Vertical fins as low feeble fold around end of tail.

Uniform brown. Iris gray. In this species the tail is rather thick, but little compressed.

1 example. Masbate Bay, Quinalasag Island. June 11, 1909. Length 120 mm.

Muraenichthys godeffroyi Regan

Muraenichthys godeffroyi REGAN, Ann. Mag. Nat. Hist., ser. 8, vol.

4, Nov. 1, 1909, p. 439. Bowen, Queensland.

Genus Myrophis Lütken

Myrophis LÜTKEN, Vidensk. Medd. Nat. Fören. Kjöbenhavn, 1851, p. 1.

Type Myrophis punctatus LÜTKEN, monotypic.

Body elongate, partly terete. Teeth partly equal. Vomerine teeth anteriorly in 2 or 3 series. Nostrils on edge of upper lip, front ones tubular. Vertical fins low, confluent around tail. Tail much longer than rest of body. Dorsal begins before vent. Pectoral very small.

Analysis of species

a¹. Dorsal begins much nearer pectoral than vent.

uropterus.

b¹. Coloration uniform; Japan.

b². Body marbled darker, fins slaty; Australia.

australis.

a². Dorsal origin midway between gill opening and
vent.

chrysogaster.

Myrophis uropterus (Schlegel)

Conger uropterus SCHLEGEL, Fauna Japonica, Poiss., pt. 10, 1846,
p. 261. Seas of Japan.

Myrophis uropterus BLEEKER, Nat. Tijds. Nederland, Indië, vol. 20,
1859-60, p. 235. Nagasaki; Act. Soc. Sci. Ind. Neerland., No. 3,
vol. 3, 1857-58 (1859), p. 3 (Kioesio), p. 6 (Japan), p. 28 (ref-
erence).

Myrus uropterus GUNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 50
(Japan). -- NYSTROM, Bihong Kong Svenske Vet. Akad. Handl. Stock-
holm, vol. 13, pt. 14, No. 4, 1887, p. 46 (Nagasaki). -- JORDAN
and SNYDER, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 861 (copied).

Tail twice long as trunk (without head).

Front eye edge much nearer end of maxillary than end of snout;
mouth cleft extends nearly below hind edge of eye.

Dorsal begins above end of pectoral.

Coloration uniform. Length 330 mm. (Günther.)

Japan.

Myrophis australis Castelnau

Myrophis? australis CASTELNAU, Proc. Linn. Soc. New South Wales,

vol. 3, 1878, p. (355) 396. Port Jackson. -- MACLEAY, Proc.

Linn. Soc. New South Wales, vol. 4, pt. 2, 1882, p. 271 (reference).

Tail much longer than body, very pointed. Head with strong longitudinal central ridge. Orbit $1 \frac{1}{2}$ in snout. Mouth cleft reaches over $\frac{1}{2}$ of orbit. Teeth very numerous, small, truncated, uniserial, except in front, where another equal short series. Hind nostril large, below arched longitudinal median ridge just above and on side of lip, with fleshy fringe below, front one very small.

Dorsal and anal united, well developed, former behind much nearer pectoral than vent. Pectoral well developed.

Gray brown, sometimes almost red, body marbled with rather darker. Fins slaty. Length 860 mm. (Castelnau.)

New South Wales.

Myrophis chrysogaster Macleay

Myrophis chrysogaster MACLEAY, Proc. Linn. Soc. New South Wales, vol.

6, pt. 2, 1882, p. 271. Port Darwin, Northern Territory.

Head 12 in total; tail twice body without head. Snout rather long, rounded and rather depressed in front; teeth have round molar appearance; nasal tubes large.

Dorsal appears to begin midway between gill opening and vent.

Reddish brown, yellowish on belly. Length 610 mm. (Macleay.)

Port Darwin.

Family OPHICHTHYIDAE

Tongue more or less firmly joined in mouth. Front nostril near snout tip, usually in small tube. Hind nostril in upper lip, opens downward. Gill opening not confluent. Eggs numerous, moderate, like those of ordinary fishes. Body scaleless. Vertical fins and sometimes pectorals absent. End of tail always projecting beyond dorsal and anal fins, without rudiment of caudal. Color frequently varied.

Numerous small or moderate sized eels, very abundant about coral reefs in tropical seas.

According to Jordan and Evermann (Genera of Fishes, pt. 1, 1917, p. 65) Colubrina Lacépède, Hist. Nat. Poiss., vol. 5, 1803, p. 40, type Colubrina chinensis Lacépède, is based on an unidentified Chinese painting. Colubrinus Duméril, Zool. Analytique, 1806, p. (138) 334, atypic (type Colubrina chinensis Lacépède) is a variant spelling.

Analysis of genera

a¹. Body with distinct fins, at least on back; pectorals present.

b¹. Vomerine teeth present.

c¹. Teeth blunt, mostly granular or molar.

d¹. Dorsal rather high, begins on head before gill opening;
pectoral short. Myrichthys.

d². Dorsal low, begins behind gill opening; pectoral small.
Pisodonophis.

c². Teeth all pointed, none molar; pectoral well developed.

e¹. Dorsal begins more or less behind gill opening.

f¹. Snout moderate or short, less than 1/4 of head, jaw
not produced into slender beak.

g¹. Lips not fringed.

h¹. Teeth on sides of upper jaw uniserial or biserial.
ial.

i¹. Teeth subequal, without canines. Ophichthus.

i². Teeth unequal, some long canines either on
vomer or in one or both jaws. Mystriophis.

h². Teeth on sides of upper jaw in several series
forming broad bands; jaws long; lips without
papillae. Xyrias.

g². Lips fringed.

j¹. Edge of upper lip with fringe of barbels;
teeth equally small; tail longer than rest
of body. Cirrhemuraena.

j². Lips with conspicuous fringe of papillae;
canines present in jaws and on vomer; tail
shorter than rest of body.

Brachysomophis.

f². Snout very long, attenuate, clavate at tip, length
over 1/4 of head; jaws slender and elongate.

Oxystomus.

e². Dorsal begins on nape on anterior part of head; pect-
oral small or absent.

k¹. Pectoral small; body subterete, long;
dorsal moderate. Bascanichthys.

k². No pectoral; body compressed; dorsal high.

Callechelys.

b². No vomerine teeth; teeth pointed. Stethopterus.

a². Body finless or sometimes only rudimentary dorsal and anal, no
pectorals; gill openings close together. Caecula.

a³. Vertical fins low, feeble, dorsal beginning behind anal; no
pectorals; gill openings connected by transverse furrow
across throat; hind nostril slit below eye posteriorly above
edge of upper lip. Hemerorhinus.

Genus Myrichthys Girard

Myrichthys GIRARD, Proc. Acad. Nat. Sci. Philadelphia, 1859, p.

58. Type Muraena tigrinus GIRARD, monotypic.

Chlevastes JORDAN and SNYDER, Proc. U. S. Nat. Mus., vol. 23, 1901,

p. 867. Type Muraena colubrina BODDAERT, monotypic.

Body well elongated. Head small, conic. Snout short, pointed, convex, much projecting beyond mouth. Eye small. Mouth small, cleft reaches hind eye edge or beyond. Teeth obtusely conic or granular, biserial in jaws, on vomer and premaxillaries. Tongue not free. Front nostrils in tubes on flattened lower surface of snout. Hind nostrils wide, in upper lip, directed downward, anteriorly with flap. Gill openings rather small, oblique, lateral slits, separated by interspace of moderate extent. Dorsal and anal end at short space before end of tail. Dorsal begins on nape, far before gill openings. Pectoral short, broad rudiment. Vent premedian.

Tropical seas.

Analysis of species

a¹. Myrichthys. Dorsal and anal ending short space from
end of tail; white with 3 rows of alternating round
brown spots. maculosus.

a². Chlevastes. Anal ending before end of dorsal, which
situated far from end of tail; pale brown or whit-
ish with 26 to 30 black rings, extending on fins.

colubrinus.

Myrichthys maculosus (Cuvier)

Muraena maculosa CUVIER, Regne Animal, vol. 2, 1817, p. 232 (on
LACEPEDE).

Ophisurus maculosus RICHARDSON, Voy. Erebus and Terror, Ichth.,
1844-48, p. 102 (Madagascar). -- BLEEKER, Nederland. Tijds.
- Dierk., vol. 1, 1863, p. 345 (Madagascar).

Pisoodonophis maculosus KAUP, Cat. Apodal Fish Brit. Mus., 1856,
p. 21 (part).

Ophichthys maculosus GÜNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870,
p. 81 (Madagascar; Bands). -- KLUNZINGER, Verh. zool. bot. Ges.
Wien, vol. 21, 1871, p. 611 (Red Sea). -- SCHMELTZ, Cat. Mus.
Godeffroy, No. 7, 1879, p. 59 (Tahiti). -- GÜNTHER, Journ. Mus.
Godeffroy, vol. 9, pt. , 1910, p. 401 (Ponape, Tongatabu, Tahiti,
Hawaii).

Ophichthys (Pisodontophis) maculosus MARTENS, Preuss. Exped. Ost-Asien,
vol. 1, 1876, p. 406 (Buru).

Myrichthys (Myrichthys) maculosus WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 284, fig. 129 (German New Guinea).

Myrichthys maculosus HERRE, Philippine Journ. Sci., vol. 23, No. 2,

Aug. 1923, p. 160, pl. 10, fig. 2 (Suriagao, Iba, Cabalian). --

FOWLER, Bull. Bishop Mus., No. 22, 1925, p. 5 (Guam). -- FOWLER

and BALL, Bull. Bishop Mus., No. 26, 1925, p. 6 (Johnston Island).

-- FOWLER, Bull. Bishop Mus., No. 38, 1927, p. 5 (Washington and

Howland Islands); Mem. Bishop Mus., vol. 10, 1928 p. 43 (Fiji.

type of Ophichthys stypurus, Honolulu, Guam, Johnston Island, types

Pisoodonophis magnifica, Hawaii, Apiang); vol. 11, No. 5, 1931, p.

316 (reference).

Ophisurus ophis (part) LACEPÈDE, Hist. Nat. Poiss., vol. 2, 1800, pp.

195, 196, pl. 6, fig. 2. "European Seas". -- BLEEKER, Atlas Ichth.

Ind. Néerland, vol. 4, 1864, p. 65, pl. (16) 160, fig. 3 (Buru;

Banda); Rech. Faune Madagascar, pt. 4, 1874, p. 72 (reference).

Ophithorax ophis MC CLELLAND, Calcutta Journ. Nat. Hist., vol. 5, 1845,

p. 212 (Europe).

Muraena tigrina RUPPELL, Atlas Reise Nördl. Afrika, Fische, 1828, p.

118, pl. 30, fig. 2. Corals at Mohila.

Dalophis tigrina MC CLELLAND, Calcutta Journ. Nat. Hist., vol. 5, 1845,

213 (Res Sea).

Pisoodonophis magnifica ABBOTT, Proc. Acad. Nat. Sci. Philadelphia,

1860, p. 476. Hawaiian Islands.

Myrichthys magnificus FOWLER, Proc. Acad. Nat. Sci. Philadelphia, 1900,

p. 494, pl. 18, fig. 3 (type). -- JORDAN and EVERMANN, Bull. U. S.

Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 84 (compiled). -- FOWLER,

Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 16 (type; note).

Ophichthys stypurus R. SMITH and SWAIN, Proc. U. S. Nat. Mus., vol. ,

p. 120. Johnston Island.

Myrichthys stypurus JORDAN and EVERMANN, Bull. U. S. Fish Comm.,

vol. 23, pt. 1, 1903 (1905), p. 84, fig. 19 (type).

Ophichthys colubrinus (not PALLAS) SEALE, Occas. Pap. Bishop Mus.,

vol. 1, No. 3, 1900 (1901), p. 62 (large Guam specimen).

Myrichthys aki TANAKA, Fig. Descr. Fishes of Japan, vol. 26, July 31,

1917, p. 458, pl. 118, figs. 358-360. Aki, Tosa Province, Japan.

Depth $29 \frac{1}{5}$ to 45; head $14 \frac{1}{4}$ to $14 \frac{3}{5}$, $5 \frac{7}{8}$ to $6 \frac{3}{5}$ to vent, width 3 to $3 \frac{2}{3}$ its length; combined head and trunk $1 \frac{1}{3}$ to $1 \frac{1}{2}$ in tail. Snout $4 \frac{1}{2}$ to $4 \frac{4}{5}$ in head; eye 8 to 9, 2 to $2 \frac{1}{2}$ in snout; $1 \frac{3}{5}$ to $1 \frac{3}{4}$ in interorbital; mouth cleft extends $\frac{1}{2}$ to $\frac{3}{4}$ eye diameter behind eye, length 3 to $3 \frac{1}{4}$ in head; teeth rather granular, rounded, biserial in jaws and on vomer, 5 or 6 on premaxillary; interorbital $5 \frac{1}{2}$ to 6 in head, convex. Gill opening $1 \frac{4}{5}$ to 2 in snout, low, $1 \frac{2}{3}$ in interspace.

Lateral line complete, distinct.

Dorsal origin midway between gill opening and snout tip; anal little lower; pectoral 6 to 8 in head.

Whitish, back tinged with warm brown. About 50 rather large deep brown on back, alternating irregularly. On head first of upper spots on snout above, then all largely biserial. Below or on sides another series, besides still another series mostly on tail inferiorly, some of more or less approximating along anal base. Dorsal with paler though otherwise similar blotches to those back. Anal largely whitish, sometimes dark brown blotches on tail inferiorly reflected basally. Pectoral pale or whitish. Spots on side of head and below, latter mostly small and pale. Mandible with several small brownish spots. Iris gray.

Red Sea, Madagascar, East Indies, Philippines, Japan, Micronesia, Polynesia, Hawaii.

1013 and 1014 A. N. S. P. Hawaiian Islands. Dr. J. K. Townsend.
Length 407 and 681 mm. Type (larger and paratype of Pisoodonophis
magnifica. Paratype with fewer dark spots though similarly dis-
tributed.

8996. Gubat Bay, Luzon. June 23, 1909. Length 423 mm.

Myrichthys colubrinus (Pallas)

Muraena colubrina (BODDAERT) PALLAS, Neue Nord. Beytr., vol. 2, 1781,
p. 56, pl. 2, fig. 3. Amboina. -- GMELIN, Syst. Nat. Linn., pt. 1,
1789, p. 1133 (Amboina). -- WALBAUM, Artedi Pisc., vol. 3, 1792, p.
153 (on PALLAS).

Muraena colubrinus BONNATERRE, Tabl. Ichth., 1788, p. 34 (copied).

Gymnothorax colubrinus SUCHOW, Naturges., vol. 4, 1799, p. 181 (copied).

-- SCHNEIDER, Syst. Ichth. Bloch, 1801, p. 529 (copied).

Muraenophis colubrina LACÉPÈDE, Hist. Nat. Poiss., vol. 5, 1803, pp. 627,
641, pl. 19, fig. 1. (New Britain; Amboina.)

Ophithorax colubrina MC CLELLAND, Calcutta Journ. Nat. Hist., vol. 5, 1844,
p. 212 ("New England").

Ophisurus colubrinus RICHARDSON, Voy. Erebus and Terror, Ichth., 1844-
48, p. 100 (Malay Archipelago, Moluccas, Polynesia, India). -- BLEEKER,
Verh. Batav. Genootsch. (Nal. Ichth. Jap.), vol. 25, 1853, p. 20 (ref-
- erence); (Nal. Ichth. Bengal), vol. 25, 1853, p. 78 (reference).

Leiuranus colubrinus KNER, Reise Novara, Fische, 1865, p. 378 (locality?).

-- SCHMELTZ, Mus. Godeffroy Cat., No. 3, 1866, p. 12 (Samoa).

Leiuranus colubrina SCHMELTZ, Cat. Mus. Godeffroy, No. 4, 1869, p. 26

(Uvea).

Ophichthys colubrinus GUNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p.

81 (Borneo, East Indies, Fiji). -- KLUNZINGER, Verh. zool. bot. Ges.

Wien, vol. 21, 1871, p. 610 (Red Sea). -- PETERS, Monatsb. Akad. Wiss.

Berlin, 1876, (1877), p. 446 (Mauritius), p. 849 (Amboina). -- DAY,

Fishes of India, pt. 4, 1878, p. 665, pl. 167, fig. 4. -- SCHMELTZ,

Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Viti Islands). -- DAY, Fauna

Brit. India, Fishes, vol. 1, 1889, p. 96. -- ELERA, Cat. Fauna Filip.,

vol. 1, 1895, p. 591 (Cebu). -- REUVENS, Notes Leyden Mus., vol. 16,

1895, p. 153 (Larantoea; East Flores; Macassar; Timor; Ternate;

Nossi Be, Mada gascar; Wahaay, Ceram; East Indies). -- BARTLETT,

Sarawak Gazette, vol. 26, No. 368, 1896, p. 180 (reference). --

BOULENGER, Ann. Mag. Nat. Hist., ser. 6, vol. 20, 1897, p. 374

(Rotuma).

Ophichthys (Pisodontophis) colubrinus MARTENS, Preuss. Exped. Ost-

Asien, vol. 1, 1876, p. 406 (Amboina River; Buru; Adenare, Flores).

Ophichthys colubrina SCHMELTZ, Cat. Mus. Godeffroy, No. 5, 1874, p.

37 (Viti Islands). -- OBILBY, Records Australian Mus., vol. 1, 1890,

91, p. 7 (Howla Island, Shortland). -- WAITE, Mem. Austral. Mus.,

No. 3, 1897, p. 195, pl. 8, fig. 3 (Funafuti, Ellice Islands). --

PELLEGRIN, Bull. Mus. Hist. Nat. Paris, vol. 4, 1898, p. 228

(Saypan, Mariannes). -- STEINDACHNER, Denks. Akad. Wiss. Wien, Math-

nat. Kl., vol. 70, 1901, p. 514 (Samoa). -- (REGAN) BEDOT, Rev.

Suisse Zool., vol. 17, 1909, p. 169 (Amboina). -- GUNTHER, Journ.

Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 40 (Society and Kingsmill

Islands).

Chlevastes colubrinus JORDAN and SNYDER, Proc. U. S. Nat. Mus., vol.

23, 1901, p. 867 (Yaeyama, southern Rui Kiu). -- HERRE, Philippine

Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 161, pl. 4 (Dumagueta,

Puerto Galera, Iba).

Chlevastes colubrinus JORDAN and SNYDER, Proc. U. S.

Nat. Mus., vol. 23, 1901, p. 867 (Yaeyama, southern Rui Kui). -- HERRE, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 161, pl. 4 (Dumagueta, Puerto Galera, Iba).

Chlevastes colubrina JORDAN and SEALE, Bull. Bur. Fisher.,

vol. 25, 1905 (1906), p. 195 (Samoa). -- FOWLER and SILVESTER, Marine Biol. Pap. Carnegie Inst. 1922, p. 112 (Pago Pago).

Myrichthys (Chlevastes) colubrinus WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 285, figs. 130-131 (Nias, Savu, Nusa Laut, Gisser, Humboldt Bay and West New Guinea).

Myrichthys colubrinus FOWLER, Bull. Bishop Mus.,

No. 22, 1925, p. 5 (Guam). -- FOWLER and BALL,

Bull. Bishop Mus., No. 26, 1925, p. 5 (Johnston

Island). -- FOWLER, Proc. Acad. Nat. Sci. Phila-

delphia, 1927, p. 259 (type of Chlevastes elaps);

Mem. Bishop Mus., vol. 10, 1928, p. 42, fig. 10

(Palmyra, Johnston, Guam, Samoa, Polynesia, Fiji,

Strong Island, Kusaie, Pelew, Apiang, Ebon, Ascen-

sion Island, Society Islands, type of Chlevastes

elaps); vol. 11, No. 5, 1931, p. 316 (Papua; Mort-

lock; type of Ophichthys naja).

Muraena annulata AHL, Mur. Oph. Thunberg, 1789, p. 8,

pl. 1, fig. 1. East Indies.

Gymnothorax annulatus SCHNEIDER, Syst. Ichth. Bloch,

1801, p. 529.

Muraena fasciata AHL, Mur. Oph. Thunberg, 1789, p. 9.

Gymnothorax fasciatus SCHNEIDER, Syst. Ichth. Bloch,,
1801, p. 528.

Ophisurus fasciatus LACÉPÈDE, Hist. Nat. Poiss., vol.

4, 1800, p. 686 (). -- RICHARDSON, Voy.

Erebus and Terror, Ichth., 1844-48, p. 100 (Malay

Archipelago; Indian Ocean). -- MC CLELLAND, Cal-

cutta Journ. Nat. Hist., vol. 5, 1845, p. 211

(compiled). -- BLEEKER, Atlas Ichth. Ind. Néer-

land, vol. 4, 1864, p. 64, pl. (21) 165, fig. 1

(Sumatra, Cocos, Bands, Amboina, Bouro, Ternate,

Batjan, Celebes, Ceram, Timor). -- KNER, Reise

Novara, Fische, 1865, p. 379 (Tahiti; Auckland).

-- SCHMELTZ, Cat. Mus. Godeffroy, No. 1, 1866, p.

11 (Samoa). -- BLEEKER, Rech. Faune Madagascar,

pt. 4, 1874, p. 72 (reference).

Pisodonophis fasciatus KAUP, Archiv Naturg., 1856,

pt. 1, p. 49 (reference).

Pisoodonophis fasciatus KAUP, Cat. Apodal Fish Brit.

Mus., 1856, p. 23 (copied).

Ophisurus alternans QUOY and GAIMARD, Voy. Uranie,

Zool., 1824, p. 243, pl. 45, fig. 2. Guam. --

POHL, Cat. Mus. Godeffroy, No. 9, 1884, p. 40

(Viti).

Ophisurus alternaus SCHMELTZ, Cat. Mus. Godeffroy,

No. 1, 1864, p. 10 (South Sea; error).

Ophisurus fasciatus var. latifasciata BLEEKER, Atlas

Ichth. Ind. Neerland., vol. 4, 1864, p. 64. East

Indies.

Ophisurus fasciatus var. oculata BLEEKER, Atlas Ichth.

Ind. Neerland., vol. 4, 1864, p. 64. East Indies.

Ophisurus fasciatus var. semicineta BLEEKER, Atlas

Ichth. Ind. Neerland., vol. 4, 1864, p. 64. East
Indies.

Ophichthys naja DE VIS, Proc. Linn. Soc. New South

Wales, vol. 8, 1883 (1884), p. 455. South Sea
Islands.

Chlevastes elaps FOWLER, Proc. Acad. Nat. Sci. Phila-

delphia, 1912, p. 13, fig. 3. Philippines.

Depth $38\frac{3}{4}$ to $55\frac{3}{4}$; head $16\frac{4}{5}$ to $18\frac{3}{4}$, $7\frac{1}{5}$ to $8\frac{1}{3}$ to vent, width $3\frac{3}{4}$ to $4\frac{2}{5}$ its length; combined head and trunk $1\frac{1}{5}$ to $1\frac{1}{4}$ in tail. Snout 5 to $5\frac{1}{8}$ in head; eye 10 to 12, $1\frac{7}{8}$ to $2\frac{1}{4}$ in snout, $1\frac{7}{8}$ to 2 in interorbital; mouth cleft extends $\frac{3}{4}$ to $1\frac{1}{2}$ eye diameters behind eye, length $2\frac{4}{5}$ to $3\frac{1}{4}$ in head; teeth small, short, rounded, biserial in jaws, on premaxillary and vomer; interorbital $6\frac{1}{3}$ to $6\frac{3}{4}$, convex. Gill opening $9\frac{3}{4}$ to 10, in lower half of body depth, $\frac{1}{2}$ interspace.

Lateral line distinct, complete.

Dorsal begins little before middle in head length, fin height $3\frac{1}{4}$ to 5 in head; anal little lower than dorsal; pectoral $11\frac{1}{2}$ to 12.

Gray or brownish white, with 30 to 33 blackish rings, mostly complete on head and trunk and all extending on vertical fins. Paler interspaces with or without 1 to 6 dark variable rounded blotches.

Red Sea, Zanzibar, Madagascar, Mauritius, India, East Indies, Andaman, Philippines, Rui Kiu, New Zealand, Melanesia, Micronesia, Polynesia.

21657. Cebu market. August 28, 1909. Length 544 mm.

1 example. Papahag Island. February 23, 1908. Length 385 mm.

23023. Sabtan Island. November 8, 1908. Length 447 mm.

Genus Posodonophis Kaup

Pisodonophis KAUP, Archiv Naturg., vol. 22, pt. 1,

1856, p. 47. Type Ophisurus cancrivorus RICHARDSON.

Pisoodonophis KAUP, Cat. Apodal Fish Brit. Mus., 1856,

p. 17. Type Ophisurus cancrivorus RICHARDSON, designated by BLEEKER, Atlas Ichth. Ind. Neerland., vol. 4, 1864, p. 36.

Pisodontophis GÜNTHER, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 55. Type Ophisurus cancrivorus RICHARDSON.

Omochelys FOWLER, Proc. Acad. Nat. Sci. Phila-
delphia, Jan. 4, 1918, p. 3. Type Pisoodono-
phis cruentifer GOODE and BEAN, orthotypic.

Syletor (not TCHITCHERINE 1899) JORDAN, Proc. Acad.
Nat. Sci. Philadelphia, 1918, (1919), p. 343.
Type Pisoodonophis cruentifer GOODE and BEAN,
orthotypic.

Teeth blunt, mostly granular or molar. Vomer with teeth. Front nostril in short tube, usually near snout tip. Dorsal low, begins behind gill opening. Anal well developed. Pectoral present, small.

Small or large eels, usually plainly colored living in tropical seas, sometimes in deep water. They differ chiefly in their short or obtuse teeth.

Analysis of species

- a¹. Dorsal origin above middle of pectorals.
- b¹. Head and trunk equal tail. hoeveni.
 - b². Head and trunk 1 1/2 in tail. cancrivorus.
- a². Dorsal origin over last third of pectoral; head and trunk nearly 2 in tail; head 7 1/3 to 8 to vent. microcephalus.
- a³. Dorsal origin behind end of pectorals.
 - c¹. Dorsal and anal very low; head and trunk 1 1/2 or less in tail.
 - d¹. Head 4 1/5 to 4 3/5 to vent. boro.
 - d². Head 5 to vent. micropterus.
 - c². Dorsal and anal very elevated, height of latter equals body height; head and trunk nearly twice in tail. hypselopterus.

Pisodonophis hoevenii (Bleeker)

Ophisurus hoevenii BLEEKER, Naturk. Tijds. Nederland, Indië, vol. 5, 1853, p. (154) 172.

Macassar, Celebes.

Pisodonophis hoeveni KAUP, Archiv Naturg., 1856, pt. 1, p. 48 (reference).

Pisoodonophis hoeveni KAUP, Cat. Apodal Fish Brit. Mus., 1856, p. 20 (Macassar). -- BLEEKER, Atlas Ichth. Ind. Neerland., vol. 4, 1864, p. 59, pl. (16) 160, fig. 2 (Celebes). -- WEBER and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 299, fig. 142 (dentition) (type).

Ophichthys hoevenii GUNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 79 (type).

Pisodonophis cancrivorus (Richardson)

Ophisurus cancrivorus RICHARDSON, Voy. Erebus and
Terror, Ichth., 1844-48, p. 97, pl. 50, figs.

6-9. Port Essington, Northern Territory.

Pisodonophis cancrivorus KAUP, Archiv Naturg., 1856,

pt. 1, p. 47 (India; Mauritius). -- FOWLER, Copeia,

No. 59, June 18, 1918, p. 62 (Philippines). --

HERRE, Philippine Journ. Sci., vol. 23, No. 2, Aug.

1923, p. 169 (Manila Bay, Dumaguete, Mindanao).

Pisoodonophis cancrivorus KAUP, Cat. Apodal Fish

Brit. Mus., 1856, p. 15, pl. 2, fig. 9 (head and dentition) (copied Richardson; Mauritius). --

GUICHENOT, Note Ile Reunion, vol. 2, 1862, p. 30.

-- KNER, Reise Novara, Fische, 1865, p. 379 (Java; Madras). -- BLEEKER, Rech. Faune Madagascar, pt.

4, 1874, p. 72 (reference). -- JORDAN and RICHARDSON, Bull. Bur. Fisher., vol. 27, 1907 (1908),

p. 238 (Manila, Cuyo). -- FRANZ, Abh. Kön. Bayer. Akad. Wiss., Math.-physik. Kl., vol. 4, Suppl.

Band 1, 1910, p. 13 (Yokohama). -- WEBER and

BEAUFORT, Fishes Indo Austral. Archipelago, vol.

3, 1916, p. 300 (Macassar). -- FOWLER, Proc. Acad.

Nat. Sci. Philadelphia, 1918, p. 2 (Philippines);

Copeia, No. 58, June 18, 1918, p. 62 (Philippines);

Proc. Acad. Nat. Sci. Philadelphia, 1927, p. 260

(Philippine example); Mem. Bishop Mus., vol. 10,

1928, p. 44 (compiled).

Pisodonophis (Ophisurus) cancrivorus GUICHENOT,

Mem. Soc. Sci. Cherbourg, ser. 2, vol. 2, 1866,

p. 147 (Madagascar).

Ophichthys cancrivorus GÜNTHER, Cat. Fishes Brit. Mus.,
 vol. 8, 1870, p. 78 (types of Ophisurus baccidens,
Ophisurus brachysoma, Ophisurus schaapi, Pisoodono-
phis moluccensis,? Conger flacipinnatus Philippines).
 -- SCHMELTZ, Cat. Mus. Godeffroy, No. 5, 1874, p. 37
 (Viti Levu); No. 7, 1879, p. 50 (Viti Levu). -- SAU-
 VAGE, Bull. Soc. Philomath. Paris, ser. 7, vol. 5,
 1881, p. 107 (Swatow). -- BOULENGER, Proc. Zool. Soc.
 London, 1889, p. 242 (Muscat). -- ELERA, Cat. Fauna
 Filip., vol. 1, 1895, p. 590 (Luzon, Manila Bay). --
 GÜNTHER, Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910,
 p. 400 (Apia, Samoa). -- ZUGMAYER, Abh. Kön. Bayer.
 Akad. Wiss., Math.-phys. Kl., vol. 26, band 6, 1913,
 p. 9 (Oman).

Ophichthys (Pisodontophis) cancrivorus MARTENS, Preuss.
 Exped. Ost-Asien, vol. 1, 1876, p. 406 (Singapore).

?Conger flacipinnatus BENNETT, Proc. Comm. Zool. Soc.

Longon, 1831, p. 168. Mautitius?

Ophisurus sinensis RICHARDSON, Voy. Erebus and Terror,

Ichth., 1844-48, p. 98. Canton.

Ophiurus baccidens CANTOR, Journ. Asiatic Soc. Bengal,

vol. 18, pt. 2, 1849, p. 1302, pl. 5, fig. 1 (teeth).

Pinang, Malay Peninsula, Singapore.

Ophisurus schaapi BLEEKER, Naturk. Tijds. Nederland,

Indië, vol. 3, 1852, p. (717) 735. Pankalpinang,

Banka.

Pisodonophis schaapi KAUP, Archiv Naturg., 1856, pt. 1,

p. 48 (reference).

Pisoodonophis schaapi BLEEKER, Atlas Ichth. Ind. Néer-

land, vol. 4, 1864, p. 61, pl. (17) 161, fig. 1

(Banka, Amboina, Solor).

Pisoodonophis schaapii SCHMELTZ, Cat. Mus. Godeffroy,

No. 4, 1869, p. 26 (Namusi).

Ophisurus brachysoma BLEEKER, Naturk. Tijds. Nederland, Indië, vol. 3, 1852, p. (740) 776. Macassar.

Pisodonophis brachysoma KAUP, Archiv Naturg., 1856, pt. 1, p. 48 (reference).

Pisoodonophis brachysoma KAUP, Cat. Apodal Fish Brit. Mus., 1856, p. 19 (compiled). -- BLEEKER, Atlas Ichth. Ind. Neerland, vol. 4, 1864, p. 60, pl. (18) 162, fig. 2 (type).

Pisoodonophos moluccensis BLEEKER, Nederland, Tijds. Dierk., vol. 2, 1865, pp. 48, 214. Amboina; Atlas Ichth. Ind. Neerland, vol. 4, 1864, p. 72, pl. (42) (not 45) 193, fig. 2 (Amboina).

?Pisoodonophis zophistius JORDAN and SNYDER, Proc.

U. S. Nat. Mus., vol. 23, 1901, p. 868, fig. 15.

Tokyo Bay near Misaki. -- ISHIKAWA and MATSUURA,

Cat. Zool. Spec. Tokyo Mus. Vertebr., 1920, p.

172 (Kanagawa).

Pisoodonophis macgregori JORDAN and RICHARDSON, Bull.

Bur. Fisher., vol. 27, 1907 (1908), p. 238, fig. 2.

Manila, Philippines.

Depth 30 to 34; head $8 \frac{7}{8}$ to $11 \frac{1}{5}$, $3 \frac{3}{5}$ to $4 \frac{1}{2}$ to vent, width $2 \frac{4}{5}$ to $3 \frac{1}{2}$ in its length; combined head and trunk $1 \frac{1}{2}$ to $1 \frac{3}{5}$ in tail. Snout $6 \frac{1}{2}$ to $6 \frac{4}{5}$ in head; eye 9 to 11, $1 \frac{1}{4}$ to $1 \frac{1}{2}$ in snout, 1 to $1 \frac{2}{5}$ in inter-orbital; mouth cleft extends $\frac{1}{2}$ to $\frac{3}{5}$ of eye diameter behind eye, length 3 to $3 \frac{7}{8}$ in head; teeth short, granular, in bands of 2 or 3 rather irregular series (4 to 8 with age) in jaws and on vomer, also patch on premaxillary; interorbital $7 \frac{2}{5}$ to $7 \frac{1}{2}$, convex. Gill opening 7, equals interspace.

Lateral line distinct, complete.

Dorsal origin over first $\frac{2}{5}$ to $\frac{1}{2}$ in pectoral, fin height $3 \frac{1}{2}$ to $6 \frac{1}{4}$ in head; anal fin height $4 \frac{3}{4}$ to $5 \frac{4}{5}$; pectoral $2 \frac{1}{2}$ to 3.

Tawny olive generally, nearly cinnamon buff on lower surfaces of trunk. Muzzle and lower surface of head tinged sometimes with dusky brown or sooty, especially former. Iris gray. Vertical fins brown, anal and dorsal edges all blackish brown to blackish. Pectoral brownish above, paler below.

Arabia, Mauritius, Madagascar, India, Singapore, East Indies, Philippines, China, Japan, North Australia, Polynesia.

6315. Cavite market. June 27, 1908. Length 633 mm.

8146. Cebu market. August 29, 1909. Length 268 mm.

A447. Manila market. March 17, 1908. Length 732 mm.

4 examples. A. N. S. P. Philippines. Commercial
Museum of Philadelphia. Length 338 to 440 mm.

Pisodonophis microcephalus (Day)

Ophichthys microcephalus DAY, Fishes of India, pt.

4, 1878, p. 665, pl. 170, fig. 7. Malabar;

Fauna Brit. India, vol. 1, 1889, p. 96.

Pisodonophis boro (Buchanan-Hamilton)

Ophisurus boro BUCHANAN-HAMILTON, Fishes of Ganges,

1822, pp. 20, 363. Ganges estuaries near Calcutta.

-- GRAY, Illustrat. Ind. Zool. Hardwicke, 1830-33

(1832, pl. 95, fig. 1. -- RICHARDSON, Voy. Erebus

and Terror, Ichth., 1844-48, p. 98 (Indian Ocean).

-- RICHARDSON, Ichth. China Japan, 1846, p. 313

(note). -- CANTOR, Journ. Asiatic Soc. Bengal, vol.

18, pt. 2, 1849, p. 1304, pl. 5, fig. 2 (Pinang).

-- BLEEKER, Verh. Batav. Genootsch. (Nal. Ich. Ben-

gal), vol. 25, 1853, p. (78) 156 (Calcutta).

Pisodonophis boro KAUP, Archiv Naturg., 1856, pt. 1

p. 48 (compiled). -- BLEEKER, Versl. Konl. Akad.

Wet. Amsterdam, ser. 2, vol. 2, 1868, p. 281

(Doreh, New Guinea). -- JORDAN and DAVIS, Rep. U.

S. Fish Comm., pt. 16, 1888 (1892), p. 620 (Swa-

tow, China). -- WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 297, fig.

138 (Doreh). -- FOWLER, Copeia, No. 58, June 18,

1918, p. 62 (Philippines). -- HERRE, Philippine

Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 168,

fig. 3, (teeth) (Alaminos, Manila Bay, San Fern-

ando, Vigan).

Pisoodonophis boro KAUP, Cat. Apodal Fish Brit. Mus.,

1856, p. 17 (Deccan). -- BLEEKER, Atlas Ichth.

Ind. Néerland., vol. 4, 1864, p. 62, pl. (20) 164,

fig. 3 (Java, Pinang, Singapore, Amboina, Calcutta).

-- DAY, Fishes of Malabar, 1865, p. 248. -- FOWLER,

Proc. Acad. Nat. Sci. Philadelphia, 1918, p. 3

(Philippines); 1927, p. 259 (Orani and Philippines);

Mem. Bishop Mus., vol. 10, 1928, p. 44 (compiled).

Ophichthys boro G^UN^UTH^UER, Cat. Fishes Brit. Mus., vol.

8, 1870, p. 77 (Hooghly River, Bengal, Pinang,

East Indies, types of Ophichthys potamophilus, Cebu,

Formosa, "Grenada, W. I." (error). -- DAY, Fishes of

India, pt. 4, 1878, p. 664, pl. 171, fig. 2; Fauna

Brit. India, Fishes, vol. 1, 1889, p. 94, fig. 41.

-- SAUVAGE, Bull. Soc. Philomath. Paris, ser. 7,

vol. 5, 1881, p. 107 (Swatow). -- BARTLETT, Sara-

wak Gazette, vol. 26, No. 368, 1896, p. 180 (Sara-

wak River near Kuching). -- WEBER, Siboga Exp. vol.

57, Fische, 1913, p. 51 (Macassar).

Ophisurus hyala BUCHANAN-HAMILTON, Fishes of Ganges,

1822, pp. 20, 363, pl. 5, fig. 5. Ganges River.

-- CUVIER, Regne Animal, ed. 2, vol. 2, 1829, p.

351. -- BLEEKER, Verh. Batav. Genootsch. (Nal.

Ichth. Bengal), vol. 25, 1853, p. (78) 158 (Calcutta).

Ophisurus hijala RICHARDSON, Voy. Erebus and Terror,

Ichth., 1844-48, p. 102 (India). -- MC CLELLAND,

Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 211

(Bengal).

Ophisurus harancha BUCHANAN-HAMILTON, Fishes of Ganges,

1822, pp. 21, 363. Estuaries near Calcutta. -- GRAY,

Illustrat. Ind. Zool. Hardwicke, vol. 1, 1830-33

(1832), pl. 95, fig. 2. -- MC CLELLAND, Calcutta

Journ. Nat. Hist., vol. 5, 1845, p. 211 (Bengal).

-- RICHARDSON, Ichth. China Japan, 1846, p. 313.

Ophisurus pallens RICHARDSON, Voy. Erebus and Terror,

Ichth., 1844-48, p. 101. China.

Pisodonophis pallens KAUP, Archiv Naturg., 1856, pt.

1, p. 48 (reference).

Pisoodonophis pallens KAUP, Cat. Apodal Fish Brit.

Mus., 1856, p. 17 (compiled).

Ophichthys pallens GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 61 (type). -- ELERA, Cat. Fauna

Filip., vol. 1, 1895, p. 588 (Luzon, Cavite, Santa Cruz).

Ophiurus hijala CANTOR, Journ. Asiatic Soc. Bengal,

vol. 18, pt. 2, 1849, p. 1307 (compiled).

Ophichthys hyala GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 60 (no locality). -- BEAVAN,

Fresh Water Fishes of India, 1877, p. 159 (Bengal rivers).

Ophisurus puncticulata SWAINSON, Nat. Hist. Animals,
vol. 2, 1839, p. 134 (on BUCHANAN-HAMILTON, fig.
5).

Ophisurus immaculata SWAINSON, Nat. Hist. Animals,
vol. 2, 1839, p. 134 (on GRAY, pl. 91, fig. 1).

Ophisurus acuminata SWAINSON, Nat. Hist. Animals,
vol. 2, 1839, p. 134 (on GRAY, pl. 91, fig. 2).

Conger microstoma EYDOUX and SOULEYET, Voy. Bonite,
Zool., vol. 1, 1841, p. 205, pl. 9, fig. 3.

Macao.

Ophisurus rostratus (not QUOY and GAIMARD) MC CLELL-
AND, Calcutta Journ. Nat. Hist., vol. 5, 1845, pp.
184, 211 (Bengal).

Ophisurus vermiformis MC CLELLAND, Calcutta Journ.
Nat. Hist., vol. 5, 1845, p. 212, pl. 12, fig. 2.
Bengal.

Ophisurus minimus MC CLELLAND, Calcutta Journ. Nat.

Hist., vol. 5, 1845, pp. 185, 212, pl. 12, fig. 3.

Bengal.

Ophisurus caudatus MC CLELLAND, Calcutta Journ. Nat.

Hist., vol. 5, 1845, pp. 185, 212, pl. 10, fig. 3.

Bengal.

Ophisurus potamophilus BLEEKER, Naturk. Tijds. Neder-

land Indië, vol. 5, 1853, p. (428) 458. Sambas,

Borneo.

Ophisurus bengalensis KAUP, Cat. Apodal Fish Brit.

Mus., 1856, p. 17 (name in synonymy).

Pisoodonophis potamophilus KAUP, Cat. Apodal Fish

Brit. Mus., 1856, p. 20 (Sambas). -- BLEEKER,

Atlas Ichth. Ind. Neerland, vol. 4, 1864, p. 63,

pl. (28) 172, fig. 2 (Sambas).

Pisodonophis potamophilus KAUP, Archiv Naturg., 1856,
pt. 1, p. 48 (reference).

Depth 32 to 34; head $8 \frac{7}{8}$ to $11 \frac{3}{4}$, $3 \frac{3}{5}$ to 4 to vent, width $2 \frac{1}{3}$ to $3 \frac{1}{5}$ its length; combined head and trunk $1 \frac{1}{2}$ to $1 \frac{3}{5}$ in tail. Snout $6 \frac{2}{3}$ to 7 in head; eye 12 to 19, $1 \frac{1}{4}$ to $2 \frac{3}{4}$ in snout, 2 to $2 \frac{1}{2}$ in interorbital; mouth cleft extends 2 eye diameters behind eye, length $3 \frac{1}{5}$ to $3 \frac{7}{8}$ in head; teeth granular, tubercular, in bands of 2 or 3 series in jaws, on vomer in 2 or 3 series in young to 4 to 5 series with age, still larger on premaxillary with age; interorbital 7 to $9 \frac{2}{5}$, slightly convex. Gill opening $7 \frac{1}{4}$, $1 \frac{1}{2}$ to $1 \frac{3}{4}$ in interspace.

Lateral line distinct.

Dorsal origin over middle of pectoral to pectoral length behind end of depressed pectoral, fin height 5 to 6 in head; anal subequally high as dorsal; pectoral 4 to $4 \frac{1}{4}$.

Uniform brown or bister, belly and lower surface soiled whitish. Jaws often soiled brownish or dusky brown, likewise lips. Iris gray. Fins gray, dorsal usually brown or dark brown marginally.

India, Singapore, East Indies, Philippines, China, Formosa.

1 example A. N. S. P. Philippines. Commercial Museum of Philadelphia. Length 738 mm.

9360. Cebu market. August 24, 1909. Length 1257 mm.

Pisodonophis micropterus Bleeker

Pisodonophis micropterus BLEEKER, Nederland, Tijds.

Dierk., vol. 1, 1863, p. 182. Macassar; vol. 2,

1864, p. 129, ; Atlas Ichth. Ind. Neerland,

vol. 4, 1864, p. 59 (type). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916,

p. 298 (type).

Pisodonophis hypselopterus (Bleeker)

Ophisurus hypselopterus BLEEKER, Naturk. Tijds.

Nederland, Indië, vol. 2, 1851, p. (58,63) 69.

Bandjermassing, Borneo.

Pisodonophis hypselopterus KAUP, Archiv Naturg.,

1856, pt. 1, p. 48 (reference).

Pisodonophis hypselopterus KAUP, Cat. Apodal Fish

Brit. Mus., 1856, p. 19 (Borneo). -- BLEEKER,

Atlas Ichth. Ind. Néerland, vol. 4, 1864, p. 63,

pl. (17) 161, fig. 2 (type). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916, p.

296, figs. 138-139 (Bandjermassing). -- FOWLER,

Mem. Bishop Mus., vol. 10, 1928, p. 44 (compiled).

Ophichthys hypselopterus GUNTHER, Cat. Fishes Brit.

Mus., vol. 8, 1870, p. 79 (type). -- BARTLETT,

Sarawak Gazette, vol. 26, No. 368, 1896, p. 180

(reference). -- GUNTHER, Journ. Mus. Godeffroy,

vol. 9, pt. 17, 1910, p. 400 (Ponape').

Genus Ophichthys Ahl

Ophichthys AHL, Spec. Ichth. Muraen. Ophich., June

1789, pp. 1,9. Type Muraena ophis LINNAEUS, des-

ignated by BLEEKER, Nederland, Tijds. Dierk., vol.

2, 1865, p. 119.

Ophichthys (not Ophichthys SWAINSON 1839) BLEEKER,

Nederland, Tijds. Dierk., vol. 2, 1865, p. 119.

Ophisurus LACEPEDE, Hist. Nat. Poiss., vol. 2, 1800,
p. 195. Type Muraena ophis LINNAEUS, designated
by BLEEKER, Nederland, Tijds. Dierk., vol. 2, 1865,
p. 119.

Cogrus RAFINESQUE, Carr. Nouv. Piant. Animal. Sicil.,
1810, p. 62. Type Cogrus maculatus RAFINESQUE,
monotypic.

Centrurrophis KAUP, Archiv Naturg., 1856, pt. 1, p.
42. Type Ophisurus spadiceus RICHARDSON, des-
ignated by JORDAN, Genera of Fishes, pt. 2, 1919,
p. 271.

Poecilocephalus KAUP, Archiv Naturg., 1856, pt. 1,
p. 43. Type Poecilocephalus bonaparti KAUP, mono-
typic.

Microdonophis KAUP, Archiv Naturg., 1856, pt. 1,

p. 43. Type Microdonophis altipennis KAUP, monotypic.

Coecilophis KAUP, Archiv Naturg., 1856, pt. 1, p. 44.

Type Coecilophis compar KAUP, monotypic.

Herpetoichthys KAUP, Archiv Naturg., 1856, pt. 1, p.

44. Type Herpetoichthys ornatissimus KAUP, designated by JORDAN, Genera of Fishes, pt. 2, 1919, p. 271.

Elapsopis KAUP, Archiv Naturg., 1856, pt. 1, p. 45.

Type Elapsopis versicolor KAUP, monotypic.

Muraenopsis (LE SUEUR) KAUP, Archiv Naturg., 1856,

pt. 1, p. 46. Type Ophisurus ocellatus (LE SUEUR) RICHARDSON, designated by JORDAN, Genera of Fishes, pt. 2, 1919, p. 271.

Scytalophis KAUP, Archiv Naturg., 1856, pt. 1, p. 46.

Type Scytalophis magnoiculis KAUP, designated by JORDAN, Genera of Fishes, pt. 2, 1919, p. 271.

Leptorhinophis KAUP, Archiv Naturg., 1856, p. 46.

Type Ophisurus gomesi CASTELNAU, designated by

JORDAN, Genera of Fishes, pt. 2, 1919, p. 271.

Cryptopterus (not Kryptopterus BLEEKER 1858) KAUP,

Abh. Naturw. Ver. Hamburg, vol. 4, pt. 2, 1859

(1860), p. 11. Type Cryptopterus puncticeps

KAUP, monotypic.

Uranichthys POEY, Repert. Fis. Nat. Cuba, vol. 2,

1867, p. 256. Type Muraena havannensis SCHNEIDER,

designated by JORDAN, Genera of Fishes, pt. 3,

1919, p. 347.

Oxyodontichthys POEY, Anal. Soc. Espan. Hist. Nat.

Madrid, vol. 9, 1880, p. 250. Type Ophichthys

macrurus POEY.

Quassiremus JORDAN and DAVIS, Rep. U. S. Fish Comm.,

pt. 16, 1888 (1892), p. 622. Type Ophichthus

evionthas JORDAN and BOLLMAN, orthotypic.

Jenkinsiella JORDAN and EVERMANN, Bull. U. S. Fish

Comm., vol. 23, pt. 1, 1903 (1905), p. 83. Type

Microdonophis macgregori JENKINS, orthotypic.

Cryptopterenchelys FOWLER, Amer. Mus. Novit., No. 162,

March 31, 1925, p. 1. Type Cryptopterus puncticeps

KAUP, orthotypic.

Cryptopterenchelys FOWLER, proposed to replace Cry-

ptopterus Kaup.

Body well elongated, cylindrical. Head moderate, pointed. Snout pointed, generally projects beyond mouth. Eye small, at first third or fourth of head. Mouth cleft reaches below hind eye edge or beyond. Edge of upper lip without fringe of small barbels. Teeth acute, conic, subequal, without canines, in 1 or more series in jaws and on vomer. Pre-maxillary teeth in group or in pairs separated from other teeth. Front nostrils in short tube on snout edge. Hind nostrils slit on inner side of upper lip, below front border of eye or in advance. Gill openings moderate or small, before and somewhat below pectoral bases. Lateral line present. Dorsal and anal not confluent, end at short space from point of tail. Dorsal origin above gill openings or slightly behind pectoral end. Pectoral well developed. Vent premedian or postmedian.

Numerous species in tropical seas.

The following doubtful:

Ophichthus quincunciatus Günther

Ophichthys quincunciatus GUNTHER, Cat. Fishes Brit.

Mus., vol. 8, 1870, p. 83. No locality.

Head 5 to vent; head and body 1 1/4 in tail. Snout depressed, pointed; eye moderate, 2 in snout; mouth cleft moderate, nearly 4 in head, reaches little beyond eye; teeth granular, on premaxillary, vomer and hind part of maxillary and front of mandible triserial, rest biserial.

Dorsal begins on nape. Pectoral very short.

Head with rather numerous round brown spots. Four alternate series of round brown spots along body, uppermost on back, partly extending on dorsal. Dorsal with series of ill defined spots along margin. Anal with **series** of spots similar to those on body. Length 682 mm. (Gunther.)

Analysis of species

- a¹. Maxillary teeth uniserial.
- b¹. Dorsal origin behind pectoral base.
- c¹. Head and trunk somewhat shorter or longer
(less than 1 1/2) than tail.
- d¹. Dark brown rings 18 to 23, extend on vertical fin bases; pectoral 7; jaws nearly equal. bonaparti.
- d². Nape with broad black cross band, broadly edged white in front and behind pectoral over 2 to 4. cephalozona.
- d³. Body with 30 obscure dark blotches on back, first large over pharynx; pectoral 3 3/5 to 4. paracephalozona.
- d⁴. Body with 20 irregular dark cross bands; pectoral 4 1/4 to 4 1/2. evermanni.
- d⁵. Body with 24 to 26 regular dark brown blotches; pectoral 9. miyamotonis.
- d⁶. Color uniform; pectoral over 3.
- e¹. Mouth cleft 3 to 4 in head.
- f¹. Depth 42. bersteini.
- f². Depth 27 1/5. grandoculis.
- e². Mouth cleft 2 1/2 to 3 in head.

c². Head and trunk $1 \frac{1}{2}$ to $1 \frac{3}{5}$ in tail.

g¹. Vomerine teeth ~~tr~~iserial anteriorly;
head nearly 5 to vent. singaporensis.

g². Vomerine teeth biserial; head $3 \frac{1}{2}$ to
vent. apicalis.

g³. Vomerine teeth?; head $5 \frac{1}{5}$ to vent;
above brown with yellow blotches or
bands; anal edge black; pectoral
black. intermedius.

c³. Head and trunk over 2 in tail; vomerine teeth
irregularly biserial; head 5 to vent.

macrochir.

b². Dorsal origin above gill opening.

h¹. Head and trunk longer than tail; pect-
oral $5 \frac{1}{2}$. polyophthalmus.

h². Head and trunk shorter than tail.

i¹. Pectoral $2 \frac{1}{2}$; without dark blotche
es; teeth uniserial in jaws and on
vomer; premaxillary plate with 5
stouter teeth arranged in \wedge .

melanochir.

i². Pectoral 4; teeth uniserial; head
with crowded small dark spots;
body with large dark spots. erabo.

a². Maxillary teeth biserial, inner row of which may be incomplete.

j¹. Mandibular teeth biserial.

k¹. Head and trunk 2 in tail.

l¹. Vomerine teeth triserial, on middle of bone sometimes quadriserial; head nearly 5 to vent.

l². Vomerine teeth biserial.

m¹. Head 6 4/5 to vent.

rutidoderma.

m². Head 5 to 5 1/2 to vent.

k². Head and trunk 1 1/2 in tail.

n¹. Head 3 to vent; pectoral

2 1/2. dicellurus.

n². Head 3 1/2 to vent; pect-

oral 4 1/2. unicolor.

n³. Head 7 to vent; pectoral

5. marginatus.

k³. Head and trunk 1 1/3 in tail;

head 3 1/3 to 3 3/4 to vent.

celebicus.

k⁴. Head and trunk 1 1/4 in tail;

head 4 to vent. elapsoides.

j². Mandibular teeth uniserial.

o¹. Dorsal origin over middle of pectoral; body with 27 brown rings.

versicolor.

o². Dorsal origin behind pectoral tip.

p¹. Body with 23 brown rings. episcopus.

p². Body with 16 or 17 large black spots on lateral line separated by band of variable spots; 1 transverse and 2 longitudinal rows of white spots on occiput; dorsal with black marginal spots and stripes.

ornatissimus.

a³. Teeth triserial in both jaws and on vomer; pectoral 4; head 3 1/2.

algoensis.

Ophichthus bonaparti (Kaup)

Poecilocephalus bonaparti KAUP, Archiv Naturg., vol.

22, pt. 1, 1856, p. 43. Amboina through Quoy and

Gaimard (Paris Museum); Cat. Apodal Fish Brit. Mus.,

1856, p. 5, pl. 1, fig. 2 (not 3) (head) (types).

Ophisurus bonapartei BLEEKER, Act. Soc. Sci. Ind.

Neerland, No. 7, vol. 2, 1857, p. 87.

Opichthys bonapartei BLEEKER, Atlas Ichth. Ind. Neer-

land, vol. 4, 1864, p. 47, pl. (14) 158, fig. 2

(Amboina).

Ophichthys bonapartii GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 69 (no locality). -- SCHMELTZ,

Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Raiatea).

-- POHL, Cat. Mus. Godeffroy, No. 9, 1884, p. 40

(Raiatea).

Ophichthys bonaparti WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 303 (Ambon).

Ophichthys bonaparti FOWLER, Mem. Bishop Mus., vol.

11, No. 5, 1931, p. 316 (reference).

Ophisurus chrysospilos BLEEKER, Act. Soc. Sci. Ind.

Neerland, No. 7, vol. 2, 1857, p. (8, 27) 88.

Amboina.

Poecilocephalus markworti KAUP, Abh. Naturw. Ver.

Hamburg, vol. 4, pt. 2, 1859 (1860), p. 10, pl. 1,

fig. 1.

Ophichthys paracephalozonus new species

Depth $29 \frac{2}{5}$ to $31 \frac{1}{3}$; head $10 \frac{1}{4}$ to 11, 5 to $5 \frac{1}{6}$ to vent, width $3 \frac{1}{3}$ to $3 \frac{3}{5}$ in its length; combined head and trunk $1 \frac{1}{8}$ in tail or $1/8$ longer than tail. Snout $4 \frac{3}{5}$ to $5 \frac{1}{8}$ in head; eye $9 \frac{1}{3}$ to $11 \frac{1}{4}$, 2 to $2 \frac{1}{4}$ in snout, $1 \frac{1}{3}$ to $1 \frac{4}{5}$ in interorbital; mouth cleft extends $2/5$ to $1/2$ an eye diameter behind eye, length $2 \frac{4}{5}$ to $3 \frac{1}{8}$ in head; teeth slender, pointed, conic, uniserial in jaws and on vomer, oval group on premaxillaries; interorbital $6 \frac{4}{5}$ to 7, convex. Gill opening $7 \frac{1}{2}$ to 8, equals interspace.

Lateral line distinct, complete.

Dorsal origin over first $2/5$ to last fifth of pectoral, fin height 5 in head; anal little lower; pectoral $3 \frac{3}{5}$ to 4.

Brown, little paler on under surfaces. About 30 obscure dark blotches on back, variable and irregular, extending on dorsal or variously broken as smaller variable spots or blotches but not extending on uniform under surfaces. First upper dark blotch covers entire upper part of pharynx. Dorsal, other than noted, together with anal and caudal pale brownish, well contrasted usually with darker body. Iris pale gray.

Diagnosis. Differs from all the known species in the genus by its coloration. The back and dorsal fin marked with large, ill defined dark blotches, very variable and little contrasted. In these respects it differs at once from Ophichthus bonaparti in which the dark blotches are complete rings and extend at least on the bases of the vertical fins, besides its throat has brown spots and the pectoral is much smaller.

Type No.	U. S. N. M.
----------	-------------

10529, 10531, 10532. Cebu market. August 17, 1909. Length 335 to 490 mm.

10955 to 10957. Cebu market. August 25, 1909. Length 348 to 517 mm. Type No. 10955.

8145. Cebu market. August 29. 1909. Length 440 mm.

21778. Nonucan River, Camp Overton, Mindanao. August 6, 1909. Length 383 mm.

22983. Santa Ana, Marinduque. April 24, 1908. Length 356 mm. to end of broken tail.

(Para, near; cephalozona, the specific name of a related species with which the present agrees in the large dark saddle like blotch on pharynx above.)

Ophichthus cephalozona JORDAN and SNYDER, Proc. U.

S. Nat. Mus., vol. 23, 1901, p. 872 (compressed).

-- HERRE, Philippine Journ. Sci., vol. 23, No. 2,

Aug. 1923, p. 172, fig. 4 (teeth) (Cavite). --

FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 45

(Pelew Islands; Oceania); vol. 11, No. 5, 1931,

p. 316 (reference); Hong Kong Naturalist, vol. 3,

No. 1, March 1932, p. 60, fig. 7 (Micronesia,

Polynesia).

Centrurrophis spadiceus (not RICHARDSON) KAUP, Cat.

Apodal Fish Brit. Mus., 1856, p. 2, pl. 1, fig. 1

(not description) (Canton, Madagascar, Vanikoro).

Muraenopsis marginatus (not PETERS) BLEEKER, Nederland,

Tijds. Dierk., vol. 1, 1868, p. 179. Molucca

Archipelago.

Ophichthus cephalozona (Bleeker)

Ophichthys cephalozona BLEEKER, Atlas Ichth. Ind.

Nederland, vol. 4, 1864, p. 49, pl. (12) 156, fig. 2.

Singapore; Amboyna. -- KNER, Reise Novara, Fische,

1865, p. 377 (Hong Kong). -- SCHMELTZ, Cat. Mus.

Godeffroy, No. 4, 1869, p. 26 (Ovalu). -- STEIN-

DACHNER, Sitz. Ber. Akad. Wiss. Wien, Math.-naturw.

Kl., vol. 60, pt. 1, 1870, p. 571 (Singapore). --

GÜNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p.

69 (type; East Indies, Cape York, Japan, Cebu). --

BLEEKER, Nederland, Tijds. Dierk., vol. 4, 1874, p.

123 (Hong Kong). -- SCHMELTZ, Cat. Mus. Godeffroy,

No. 7, 1879, p. 59 (South Sea). -- KAROLI, Termesz.

Fuzetek, Budapest, vol. 1, 1881, p. 185 (Singapore).

-- POHL, Cat. Mus. Godeffroy, No. 9, 1884, p. 9

(South Sea). --

ELERA, Cat. Fauna Filip., vol. 1, 1895, p. 589
(Luzon, Manila, Cebu). -- GÜNTHER, Journ. Mus.
Godeffroy, vol. 9, pt. 17, 1910, p. 398 (Pelew
Islands, Ovalau, Tongatabu). -- WEBER and BEAU-
FORT, Fishes Indo Austral. Archipelago, vol. 3,
1916, p. 303, figs. 143-144 (Kei Islands; West
New Guinea). -- CHEN, Bull. Biol. Dep. Sun Yat-
Sen Univ., vol. 1, No. 1, 1929, p. 22 (WEBER'S
record).

Ophisurus marginatus (VALENCIENNES) BLEEKER, Neder-
land. Tijds. Dierk., vol. 1, 1868, p. 179 (name
in text).

Depth $29 \frac{2}{5}$ to $34 \frac{1}{4}$; head $10 \frac{4}{5}$ to 11, $4 \frac{3}{5}$ to 5 to vent, width $3 \frac{1}{2}$ to $4 \frac{1}{5}$ its length; combined head and trunk $1 \frac{1}{11}$ to $1 \frac{1}{5}$ in tail. Snout $5 \frac{3}{5}$ to $5 \frac{4}{5}$ in head; eye 11 to $12 \frac{1}{3}$, $1 \frac{7}{8}$ to $2 \frac{1}{8}$ in snout, $1 \frac{3}{4}$ to 2 in interorbital; mouth cleft extends $\frac{1}{2}$ eye diameter behind eye, length $3 \frac{2}{5}$ to $3 \frac{1}{2}$ in head; teeth conic, slender, uniserial in jaws and on vomer, angular series of little larger ones on premaxillary; interorbital 6 to $7 \frac{2}{5}$, convex. Gill opening $6 \frac{3}{4}$ to 9, 1 to $1 \frac{2}{5}$ in interspace.

Lateral line distinct, complete.

Dorsal origin over first $\frac{1}{3}$ to $\frac{1}{2}$ of pectoral, fin height $4 \frac{1}{2}$ to $5 \frac{1}{5}$ in head; anal lower; pectoral $2 \frac{4}{5}$ to 3.

Brown, under surface of head and belly paler. Large blackish brown saddle over pharynx. Vertical fins dusky to blackish, each with narrow contrasted white margin. Pectoral brown.

Madagascar, Singapore, East Indies, Philippines, China, Formosa, Japan, Queensland, Micronesia, Polynesia.

8144. Cebu market. August 29, 1909. Length 510 mm.

9387. Cebu market. Sept. 4, 1909. Length 665 mm.

Ophichthus evermanni Jordan and Richardson

Ophichthus evermanni JORDAN and RICHARDSON, Mem.

Carnegie Mus., vol. 4, 1911, p. 172, pl. 67. Formosa. -- FOWLER, Hong Kong Naturalist, vol. 3, No. 1, March 1932, p. 61 (compiled).

Ophichthys evermanni CHEN, Bull. Biol. Dep. Sun Yat-

Sen Univ., vol. 1, No. 1, 1929, p. 21, pl. 1, fig. 3 (anterio body and tail end), fig. 3a (dentition) (Sama and Pakhoi).

Ophichthus miyamotoi Tanaka

Ophichthus miyamotoi TANAKA, Fig. Descr. Fishes of

Japan, vol. 11, May 6, 1913, p. 195, pl. 52, fig. 199-201. Ochima, south of Kagoshima, Japan.

Ophichthus bernsteini (Bleeker)

Muraenipsis bernsteini BLEEKER, Nederland. Tijds.

Dierk., vol. 1, 1863, p. (154) 157. Galela,
Halmaheira.

Ophichthys bersteini BLEEKER, Atlas Ichth. Ind.

Nederland, vol. 4, 1864, p. 48, pl. (24) 158, fig.

1 (type). -- GÜNTHER, Cat. Fishes Brit. Mus., vol.

8, 1870, p. 71 (compiled). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916, p.

304 (compiled).

Ophichthus grandoculis (Cantor)

Ophisurus grandoculis CANTOR, Journ. Asiatic Soc.

Bengal, vol. 18, pt. 2, 1840, p. 1306, pl. 5, fig.

3 (teeth). Pinang.

Centrurrophis grandoculis KAUP, Archiv Naturg., 1856,
pt. 1, p. 42 (reference); Cat. Apodal Fish Brit.
Mus., 1856, p. 4 (copied).

Ophichthys grandoculis GÜNTHER, Cat. Fishes Brit.
Mus., vol. 8, 1870, p. 71 (types).

Ophichthus grandoculis JORDAN and RICHARDSON, Bull.
Bur. Fisher., vol. 27, 1907 (1908), p. 238 (Man-
ila). -- HERRE, Philippine Journ. Sci., vol. 23,
No. 2, Aug. 1923, p. 173, fig. 5 (teeth) (Jordan
on Guimaras).

Ophichthus urolophus (Schlegel)

Conger urolophus SCHLEGEL, Fauna Japonica, Poiss.,
pts. 10-14, 1846, p. 260, pl. 114, fig. 11. Japan.

Ophisurus urolophus BLEEKER, Verh. Batav. Genootsch.

(Nal. Ichth. Japan), vol. 25, 1853, p. 19 (reference).

Ophichthys urolophus GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 73 (compiled). -- ISHIKAWA and

MATSUURA, Prelim. Cat. Fishes Mus. Tokyo, 1897, p.

6. -- IZUUKA and MATSUURA, Cat. Zool. Spec. Tokyo,

Vertebr., 1920, p. 172 (Kawajiri).

Ophichthus urolophus FRANZ, Abh. Kon. Bayer. Akad.

Wiss., vol. 4, Suppl. Band 1, 1910, p. 13 (Yoko-

hama). -- TANAKA, Fig. Descr. Fishes of Japan, vol.

41, Dec. 23, 1927, p. 789, pl. 170, fig. 471 (Tokyo

market).

Ophichthys stenopterus COPE, Trans. Amer. Philos. Soc.,

ser. 2, vol. 14, 1871, p. 482. Japan.

Ophichthus stenopterus JORDAN and SNYDER, Proc. U. S.

Nat. Mus., vol. 23, 1901, p. 874 (compiled). --

FOWLER, Proc. Acad. Nat. Sci. Philadelphia, 1912,
p. 17 (type).

Ophichthus asakusae JORDAN and SNYDER, Proc. U. S. Nat.

Mus., vol. , 1901, p. 872, fig. 18. Outside Tok-

yo Bay. -- FRANZ, Abh. Kon. Bayer. Akad. Wiss., vol.

4, Suppl. Band. 1, 1910, p. 13 (Sagami Bay). --

SNYDER, Proc. U. S. Nat. Mus., vol. 42, 1912, p.

406 (Yokohama). -- JORDAN and THOMPSON, Mem. Carnegie

Mus., vol. 6, 1914, p. 234 (Kobe). -- IZUKA and MAT-

SUURA, Cat. Zool. Spec. Tokyo Mus., Vertebr., 1920,

p. 172 (Izu).

Ophichthus tsuchidae JORDAN and SNYDER, Proc. U. S.

Nat. Mus., vol. 23, 1901, p. 873, fig. 19. Misaki.

-- FRANZ, Abh. Kon. Bayer. Akad. Wiss., vol. 4,

Suppl. Band 1, 1910, p. 14 (Yokohama).

Ophichthys tsuchidae DERANIYAGALA, Ceylon Administrat.

Rep., 1925, p. F15.

Ophichthus habereri FRANZ, Abh. Kon. Bayer. Akad.

Wiss., vol. 4, Suppl. Band 1, 1910, p. 13. Yokohama.

Ophichthus singapurensis Bleeker

Ophichthys singapurensis BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 52, pl. (44) 188, fig.

1. Singapore. -- GUNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 71 (type). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916, p.

306 (type).

Ophichthus apicalis (Bennett)

Ophisurus apicalis BENNETT, Life of Raffles, 1830,

p. 692. Sumatra.

- Ophichthys apicalis GUNTHER, Cat. Fishes Brit. Mus.,
vol. 8, 1870, p. 70 (types of Ophisurus spadiceus,
Ophisurus compar, Ophisurus diepenhorsti). --
BLEEKER, Nederland., Tijds. Dierk., vol. 4, 1871
(1874), p. 123 (reference). -- SCHMELTZ, Cat. Mus.
Godeffroy, No. 5, 1874, p. 37 (Singapore). --
MARTENS, Preuss. Exped. Ost-Asien, vol. 1, 1876,
p. 406 (Singapore). -- GORGOZA, Anal. Soc. Espan.
Hist. Nat. Madrid, vol. 14, 1885, p. 74 (Manila).
-- ELERA, Cat. Funa Filip., vol. 1, 1895, p. 589
(Luzon, Manila Bay). -- ISHIKAWA and MATSUURA, Pre-
lim. Cat. Fishes Mus. Tokyo, 1897, p. 6. -- WEBER
and BEAUFORT, Fishes Indo Austral. Archipelago, vol.
3, 1916, p. 305, fig. 145 (dentition) (Nias, Bat-
avia, Surabaya, Madura). -- BARNARD, An. South Afr-
ican Mus., vol. 21, pt. 1, June 1925, p. 204 (Natal
and Zululand coasts). -- CHEN, Bull. Biol. Dep. Sun
Yat-Sen Univ., vol. 1, No. 1, 1929, p. 20, fig. 11

(dentition) (Daipo, Sama, Ying Khou, Hoihow). --

WU, Contrib. Biol. Lab. Sci. Soc. China, vol. 5,

No. 4, 1929, p. 34, fig. 27 (head) (Amoy).

Ophichthus apicalis HERRE, Philippine Journ. Sci.,

vol. 23, No. 2, Aug. 1923, p. 174 (Manila, Mal-

abon, Mindoro, Damaguete, Cagayan de Misamis,

Davao). -- FOWLER, Hong Kong Naturalist, vol. 3,

No. 1, March 1932, p. 61 (note).

Ophisurus spadiceus RICHARDSON, Ichth. China Japan,

1846, p. 313. Canton, China; Voy. Erebus and Terror,

Ichth., 1844-48, p. 103 (Canton).

Centrurophis spadiceus KAUP, Archiv Naturg., 1856, pt.

1, p. 42 (reference); Cat. Apodal Fish Brit. Mus.,

1856, p. 2, pl. 1, fig. 1 (head) (Canton, Madag-

ascar, Vanikoro).

Centurophis (Ophisurus) spadiceus GUICHENOT, Mem. Soc.

Sci. Cherbourg, ser. 2, vol. 2, 1866, p. 147 (Mad-

agascar).

Ophichthys spadiceus BLEEKER, Res. Faune Madagascar,

pt. 4, 1874, p. 72 (reference).

Ophisurus compar RICHARDSON, Voy. Erebus and Terror,

Ichth., 1844-48, p. 105. Sumatra.

Coecilophis compar KAUP, Archiv Naturg., 1856, pt. 1,

p. 44 (Sumatra); Cat. Apodal Fish Brit. Mus., 1856,

p. 6 (Sumatra example).

Ophisurus bangko BLEEKER, Verh. Batav. Genootsch. (Mur-

aen.), vol. 25, 1853, p. 67. Batavia, Java.

Centrurrophis bangko KAUP, Archiv Naturg., 1856, pt. 1,

p. 42 (reference); Cat. Apodal Fish Brit. Mus., 1856,

p. 42 (reference).

Ophichthys bangko BLEEKER, Atlas Ichth. Ind. Neerland.,

vol. 4, 1864, p. 51, pl. (14) 158, fig. 1 (Java,

Celebes).

Ophisurus diepenhorsti BLEEKER, Act. Soc. Sci. Ind.

Neerland., (Sumatra 8), vol. 8, 1859, p. (11) 85.

Priaman, Sumatra.

Ophichthys diepenhorsti BLEEKER, Atlas Ichth. Ind.

Nederland., vol. 4, 1864, p. 52, pl. (15) 159, fig.

4 (Sumatra, Celebes).

Ophichthys amoyensis BLEEKER, Nederland. Tijds. Dierk.,

vol. 2, 1864, p. (56) 61. Amoy.

Ophichthys limkoumensis CHEN, Bull. Biol. Dep. Sun Yat-

Sen Univ., vol. 1, No. 1, 1929, p. 23, pl. 2, fig. 2

(anterior body and tail end), fig. 2a (dentition).

Limkou.

Ophichthys limkouensis CHEN, Bull. Biol. Dep. Sun Yat-

Sen Univ., vol. 1, No. 1, 1929, errata.

Depth $18 \frac{2}{5}$ to 31; head $7 \frac{3}{5}$ to $9 \frac{4}{5}$, $3 \frac{1}{2}$ to vent, width 3 to $4 \frac{3}{4}$ in its length; combined head and trunk $1 \frac{1}{4}$ to $1 \frac{2}{3}$ in tail. Snout $5 \frac{2}{5}$ to 6 in head; eye 9 to 10, $1 \frac{2}{5}$ to $1 \frac{4}{5}$ in snout, $1 \frac{2}{5}$ in interorbital; mouth cleft extends $\frac{1}{2}$ to 1 eye diameter behind eye, length $2 \frac{3}{5}$ to 3 in head; teeth conic, strong, short, above slightly or irregularly biserial anteriorly, below uniserial, on vomer uniserial though a little irregular, partial circle of 8 on premaxillary; interorbital $5 \frac{1}{2}$, low, depressed, nearly level. Gill opening $5 \frac{1}{2}$ to 10, equals interspace.

Lateral line complete, distinct.

Dorsal origin over last fourth of pectoral, fin height 4 to $6 \frac{1}{4}$ in head; anal fin height $5 \frac{1}{2}$ to $5 \frac{3}{4}$; pectoral $2 \frac{2}{3}$ to $2 \frac{4}{5}$.

Brown, nearly uniform. Fins all uniformly paler. Iris light yellowish brown.

Natal, Madagascar, Singapore, East Indies, Philippines, China, Melanesia.

1 example. Manila Bay, December 7, 1907. Length 67 mm.

1 example. Manila, Santa Cruz market. January 4, 1908.
Length 253 mm.

8437. D. 5418. Luis Point Light, N. 16° E., 5.6 miles
(N. $10^{\circ}8'50''$ E. $123^{\circ}52'30''$), between Cebu and Bohol. In
159 fathoms. March 25, 1909. Length 462 mm.

Ophichthys intermedius Regan

Ophichthys intermedius REGAN, Ann. Mag. Nat. Hist.,
ser. 7, vol. 15, 1905, p. 17. Inland Sea of Japan.

Ophichthus macrochir (Bleeker)

Ophisurus macrochir BLEEKER, Verh. Batav. Genootsch.
(Muraen.), vol. 25, 1853, p. 26. Batavia.

Centrurrophis macrochir KAUP, Archiv Naturg., 1856, pt.
1, p. 43 (reference); Cat. Apodal Fish Brit. Mus.,
1856, p. 5 (compiled).

Ophichthys macrochir BLEEKER, Atlas Ichth. Ind. Neerland., vol. 4, 1864, p. 54, pl. (20) 164, fig. 1
(Java). -- GÜNTHER, Cat. Fishes Brit. Mus., vol. 8,
1870, p. 72 (type). -- WEBER and BEAUFORT, Fishes
Indo Austral. Archipelago, vol. 3, 1916, p. 306
(Deli and Bagan Api Api, Sumatra; Batavia and Surabaya).

Ophichthus macrochir HERRE, Philippine Journ. Sci.,

vol. 23, No. 2, Aug. 1923, p. 175 (Cavite).

Ophichthus manilensis HERRE, Philippine Journ. Sci.,

vol. 23, No. 2, Aug. 1923, p. 176 pl. 5. Cavite,

Bulacan, Malabon, Mindoro.

Ophichthus polyophthalmus Bleeker

Ophichthys polyophthalmus BLEEKER, Nederland. Tijds.

Dierk., vol. 2, 1865, p. 43. Amboyna; Atlas Ichth.

Ind. Neerland., vol. 4, 1864, p. 47, pl. (42) 186,

fig. 3 (type). -- GUNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 73 (type). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916, p.

307 (type).

Ophichthus polyophthalmus FOWLER, Bull. Bishop Mus.,

No. 38, 1927, p. 5 (Kunhei, Kahoolawe); Mem. Bishop of Mus., vol. 10, 1928, p. 45 (Oceania; type of Microdonophis fowleri; Honolulu).

Microdonophis polyophthalmus JORDAN and SNYDER, Bull.

Bur. Fisher., vol. 26, 1906 (1907), p. 207 (Honolulu).

Microdonophis fowleri JORDAN and EVERMANN, Bull. U. S.

Fish Comm., vol. 22, 1902 (1903), p. 164. Honolulu.

-- JORDAN and SNYDER, Proc. U. S. Nat. Mus., vol. 27,

1904, p. 940 (Hawaiian Islands). -- JORDAN and EVER-

MANN, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903

(1905), p. 82, pl. 6 (type; Honolulu). -- JORDAN and

SNYDER, Bull. Bur. Fisher., vol. 26, 1906 (1907), p.

208 (Honolulu).

Ophichthys bleekeri VOLZ, Zool. Jahrb. Abth. Syst.,

vol. 19, 1903, p. 418.

Ophichthys garetti GÜNTHER, Journ. Mus. Godeffroy, vol.

9, pt. , 1910, p. 397, pl. 163, fig. A. Society
Islands.

Ophichthus melanochir Bleeker

Ophichthys melanochir BLEEKER, Nederland. Tijds. Dierk.,

vol. 2, 1864, p. 44. Amboina; Atlas Ichth. Ind. Neer-
land., vol. 4, 1864, p. 51, pl. (48) 192, fig. 3 (type).
-- WEBER and BEAUFORT, Fishes Indo Austral. Archipelago,
vol. 3, 1916, p. 308 (type).

Ophichthys altipinnis (not KAUP) GÜNTHER, Cat. Fishes

Brit. Mus., vol. 8, 1870, p. 74 (type of Ophichthys
melanochir).

Ophichthus ornatissimus (Kaup)

Herpetoichthys ornatissimus KAUP, Archiv Naturg.,

1856, pt. 1, p. 44. Malabar, through DUSSUMIER,

Paris Museum; Cat. Apodal Fish Brit. Mus., 1856,

p. 7. pl. 1, fig. 4 (not 5) (type).

Ophichthys ornatissimus DAY, Fishes of Malabar, 1865,

p. 67. -- GÜNTHER, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 67 (copied). -- DAY, Fishes of India, pt.

4, 1878, p. 665; Fauna Brit. India, Fishes, vol. 1,

1889, p. 97.

Ophichthus erabo (Jordan and Snyder)

Microdonophis erabo JORDAN and SNYDER, Proc. U. S.

Nat. Mus., vol. 23, 1901, p. 870, fig. 17. Misaki,
Japan. -- FRANZ, Abh. Kon. Bayer. Akad. Wiss., vol.
4, Suppl. Band 1, 1910, p. 13 (Fukuura and Aburat-
subu). -- FOWLER, Proc. Acad. Nat. Sci. Philadelphia,
1912, p. 16 (paratype). -- IZUUKA and MATSUURA, Cat.
Zool. Spec. Tokyo, Mus., Vertebr., 1920, p. 172
(Boshui).

Ophichthus altipennis (Kaup)

Microdonophis altipennis KAUP, Archiv Naturg., 1856, pt.

1, p. 43. Macassar.

Microdonophis altipinnis KAUP, Cat. Apodal Fish Brit.

Mus., 1856, p. 6, pl. 1, fig. 3 (not 4) (head) (type).

Muraenopsis altipinnis BLEEKER, Nederland. Tijds.

Dierk., vol. 1, 1863, p. 180 (Macassar).

Ophichthys altipinnis BLEEKER, Atlas Ichth. Ind. Neer-

land., vol. 4, 1864, p. 50, pl. (13) 157, fig. 2

(Macassar). -- GÜNTHER, Cat. Fishes Brit. Mus., vol.

8, 1870, p. 74 (part). -- WEBER and BEAUFORT, Fishes

Indo Austral. Archipelago, vol. 3, 1916, p. 308, fig.

146 (dentition) (type).

Depth 27; head $9 \frac{2}{5}$, $3 \frac{2}{3}$ to vent, width 4 in its length; combined head and trunk $1 \frac{2}{3}$ in tail. Snout $5 \frac{1}{3}$ in head; eye $7 \frac{3}{4}$, $1 \frac{1}{3}$ in snout, equals interorbital; mouth cleft extends $\frac{1}{3}$ eye diameter behind eye, length $2 \frac{3}{4}$ in head; teeth conic, slender, pointed, uniserial in jaws and on vomer, 2 rows on premaxillary; interorbital $7 \frac{1}{8}$, convex. Gill opening $9 \frac{4}{5}$, $1 \frac{3}{4}$ in interspace.

Lateral line distinct, complete.

Dorsal origin eye diameter before gill opening, fin height 4 in head; anal fin height $5 \frac{2}{5}$, pectoral $2 \frac{2}{5}$.

Uniform brown largely. Under surface of head and region below pectoral pale or brownish white, leaving pharynx brown below. Pores on head dusky. Iris brown. Vertical fins brownish basally, broadly dusky to blackish terminally. Pectoral neutral black.

Previously only known from the type obtained at Macassar, Celebes. The species is readily known by its very high dorsal fin beginning before the gill opening.

8322. Bagacay Bay, Escarpada Island, between Samar and Masbate. March 12, 1909. Length 719 mm.

Ophichthus maclellandi (Bleeker)

Ophisurus maclellandi BLEEKER, Verh. Batav. Genootsch.,

(Muraen.), vol. 25, 1853, p. 33. Batavia, Java.

Pisodonophis maclellandi KAUP, Archiv Naturg., 1856,

pt. 1, p. 48 (reference).

Pisoodonophis maclellandi KAUP, Cat. Apodal Fish Brit.

Mus., 1856, p. 19 (compiled).

Ophichthys maclellandi BLEEKER, Atlas Ichth. Ind. Néer-

land., vol. 4, 1864, p. 57, pl. (15) 159, fig. 2

(type). -- GUNTHER, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 63 (type). -- WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 311 (type).

Ophichthus rutidoderma (Bleeker)

Ophisurus rutidoderma BLEEKER, Verh. Batav. Genootsch.,
(Muraen.), vol. 25, 1853, p. 30. Batavia.

Pisodonophis rutidoderma KAUP, Archiv Naturg., 1856, pt.
1, p. 48 (reference).

Pisoodonophis rutidoderma KAUP, Cat. Apodal Fish Brit.
Mus., 1856, p. 18 (Malay Archipelago).

Ophichthus rutidoderma BLEEKER, Atlas Ichth. Ind. Neer-
land., vol. 4, 1864, p. 55, pl. (29) 173, fig. 3
(Batavia).

Ophichthys rhytidoderma GUNTHER, Cat. Fishes Brit. Mus.,
vol. 8, 1870, p. 63 (type). -- WEBER and BEAUFORT,
Fishes Indo Austral. Archipelago, vol. 3, 1916, p.
309 (type).

Ophichthys rutidodermatoides (Bleeker)

Ophisurus rutidodermatoides BLEEKER, Verh. Batav.

Genootsch., (Muraen.), vol. 25, 1853, p. 31.

Batavia.

Pisodonophis rutidodermatoides KAUP, Archiv Naturg.,

1856, pt. 1, p. 48 (reference).

Pisoodonophis rutidermatoides KAUP, Cat. Apodal Fish

Brit. Mus., 1856, p. 18 (compiled).

Ophichthys rutidodermatoides BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 55, pl. (16) 160, fig.

1 (type).

Ophichthys rhytidodermatoides GÜNTHER, Cat. Fishes Brit.

Mus., vol. 8, 1870, p. 62 (types; types of Ophiurus

breviceps). -- KAROLI, Termesz. Fuzetek, Budapest, vol.

1, 1881, p. 184 (Ceylon). -- WEBER and BEAUFORT, Fishes

Indo Austral. Archipelago, vol. 3, 1916, p. 309, fig.

147 (dentition) (type).

-- DERANIYAGALA, Ceylon Administr. Rep., 1925, p.

F15.

Ophiurus breviceps (not RICHARDSON) CANTOR, Journ.

Asiatic Soc. Bengal, vol. 18, pt. 2, 1849, p.

1308, pl. 5, fig. 4 (Sea of Pinang).

Ophichthys breviceps BLEEKER, Atlas Ichth. Ind. Neer-

land., vol. 4, 1864, p. 57, pl. (47) 191, fig. 4

(head **above** and dentition) (copied).

Ophiurus lumbricoides BLEEKER, Verh. Batav. Genootsch.,

(Muraen.), vol. 25, 1853, p. 32 (on CANTOR).

Pisodonophis lumbricoides KAUP, Archiv Naturg., 1856,

pt. 1, p. 48 (reference).

Pisoodonophis lumbricoides KAUP, Cat. Apodal Fish Brit.

Mus., 1856, p. 21 (copied).

Ophichthys lumbricoides BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 56, pl. (14) 158, fig.

3 (Batavia). -- WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 310 (type).

Ophichthus lumbricoides FOWLER, Hong Kong Naturalist,

vol. 3, No. 1, March 1932, p. 62 (compiled).

Ophichthys woosuiting CHEN, Bull. Biol. Dep. Sun Yat-

Sen Univ., vol. 1, No. 1, 1929, p. 22. Ying Khow.

Ophichthys wooshuitingi CHEN, Bull. Biol. Dep. Sun Yat-

Sen Univ., vol. 1, No. 1, 1929, pl. 1, fig. 1 (anter-

ior body), fig. 1a (dentition) (errata).

Ophichthus dicellurus (Richardson)

Ophisurus dicellurus RICHARDSON, Voy. Sulphur, Fishes,

1844, p. 106, pl. 48, figs. 2-4. No locality;

Voy. Erebus and Terror, Ichth., 1844-48, p. 105

(estuary Yang tze Kiang, China); Ichth. China Japan,

1846, p. 312 (same material).

Muraenopsis discellurus KAUP, Archiv Naturg., 1856, pt.

1, p. 46 (reference; error).

Muraenopsis dicellurus KAUP, Cat. Apodal Fish Brit. Mus.,

1856, p. 12 (China, estuary Yang tze Kiang).

Ophichthys dicellurus GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1879, p. 59 (type); Rep. Voy. Challenger, vol.

1, pt. 6, 1880, p. 25 (Valparaiso). -- ELERA, Cat.

Fauna Filip., vol. 1, 1895, p. 588 (Luzon, Cavite,

Santa Cruz).

Ophichthys dicellurus FOWLER, Hong Kong Naturalist, vol.

3, No. 1, March 1932, p. 62 (compiled).

Ophichthus unicolor Regan

Ophichthys unicolor REGAN, Ann. Natal Gov. Mus., vol. 1, pt. 3, May 15, 1918, p. 250, fig. 1. Sixteen miles northeast of Bird Island, 40 fathoms; p. 243 (reference; no description). -- THOMPSON, Marine Biol. Rep. South Africa, vol. 3, 1916, p. 78 (). -- GILCHRIST and THOMPSON, Ann. Durban Mus., vol. 1, pt. 4, 1917, p. 302 (compiled). -- BARNARD, Ann. South Africa, vol. 21, pt. 1, 1925, p. 203 (Algoa Bay, 40 fathoms).

Ophichthus marginatus (Peters)

Ophisurus marginatus PETERS, Archiv Naturg., 1855, p.

272. -- GÜNTHER, Fishes of Zanzibar, 1866, p. 128.

Leptorhinophis marginatus KAUP, Archiv Naturg., 1856, pt.

1, p. 47 (Inhambane); Cat. Apodal Fish Brit. Mus.,

1856, p. 14 (same example).

Ophichthys marginatus GÜNTHER, Cat. Fishes Brit. Mus.,
vol. 8, 1870, p. 64 (no locality).

Ophichthus celebicus (Bleeker)

Ophisurus celebicus BLEEKER, Act. Soc. Sci. Ind. Neer-
land., No. 3, vol. 1, 1856, p. (6) 70. Manado.

Ophichthys celebicus BLEEKER, Atlas Ichth., Ind. Neer-
land., vol. 4, 1864, p. 54, pl. (15) 159, fig. 3
(types). -- WEBER and BEAUFORT, Fishes Indo Austral.
Archipelago, vol. 3, 1916, p. 311 (Macassar, Manado,
Ambon). -- CHEN, Bull. Biol. Dep. Sun Yat-Sen Univ.,
No. 1, 1929, p. 20, fig. 10 (dentition) (Daipo, Pak-
hoi).

Ophichthus celebicus FOWLER, Hong Kong Naturalist, vol.
3, No. 1, March 1932, p. 62 (compiled).

Ophisurus broekmeyeri BLEEKER, Act. Soc. Sci. Ind. Neer-
land., No. 3, vol. 1, 1856, p. (8) 71. Macassar.

Ophichthys broekmeyeri BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 53, pl. (15) 159, fig.

1 (type). -- GÜNTHER, Cat. Fishes Brit. Mus., vol.

8, 1870, p. 61 (type; types of Ophichthys amboinensis).

-- ELERA, Cat. Fauna Filip., vol. 1, 1895, p. 589

(Luzon, Cavite, Santa Cruz).

Ophichthus broekmeyeri HERRE, Philippine Journ. Sci.,

vol. 23, No. 2, Aug. 1923, p. 179, fig. 6 (teeth)

(Malabon).

Ophichthys amboinensis BLEEKER, Nederland, Tijds. Dierk.,

vol. 2, 1864 (1865), p. 45. Amboina; Atlas Ichth.

Ind. Neerland., vol. 4, 1864, p. 54, pl. (45) 189,

fig. 1 (type).

Ophichthus elapsoides Castelnau

Ophichthys elapsoides CASTELNAU, Victoria Off. Rec.

Philadelphia Expos. (Res. F. Austral.), 1875, p.

47. Cape York, Queensland. -- MACLEAY, Proc. Linn.

Soc. New South Wales, vol. 6, pt. 2, 1881, p. 275

(compiled).

Ophichthus versicolor (Richardson)

Ophisurus versicolor RICHARDSON, Voy. Erebus and Terror,

Ichth., 1844-48, p. 103. Moluccas.

Elapsopsis versicolor KAUP, Archiv Naturg., 1856, pt. 1,

p. 45 (Moluccas).

Elapsopsis versicolor KAUP, Cat. Apodal Fish Brit. Mus.,

1856, p. 10 (Moluccas).

Ophichthys versicolor GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 68 (type). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 312

(type).

Ophichthys episcopus Castelnau

Ophichthys episcopus CASTELNAU, Proc. Linn. Soc. New South Wales, vol. 2, May 1878, p. 244. Moreton Bay, Queensland. -- MACLEAY, Proc. Linn. Soc. New South Wales, vol. 6, pt. 2, 1881, p. 276 (reference).

Ophichthus ornatissimus (Kaup)

Herpetoichthys ornatissimus KAUP, Archiv Naturg., 1856, pt. 1, p. 44. Malabar; Cat. Apodal Fish Brit. Mus., 1856, p. 7, pl. 1, fig. 5 (head) (type).

Ophichthys ornatissimus DAY, Fishes of Malabar, 1865, p. 247 (Malabar). -- GÜNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 67 (copied). -- DAY, Fishes of India, pt. 4, 1878, p. 665 (Malabar); Fauna Brit. India, Fishes, vol. 2, 1889, p. 97 (copied).

Ophichthus algoensis Barnard

Ophichthus algoensis BARNARD, Ann. Mag. Nat. Hist.,
ser. 9, vol. 15, 1925, p. 498. Aloga Bay, 55 fath-
oms; Ann. South African Mus., vol. 21, pt. 1, 1925,
p. 203 (type).

Ophichthys triserialis (not KAUP) BARNARD, Ann. South
African Mus., vol. 13, pt. 8, 1923, p. 444.

Genus Mystriophis Kaup

Mystriophis KAUP, Archiv Naturg., 1856, pt. 1, p. 45.

Type Ophisurus rostellatus RICHARDSON, designated by
BLEEKER, Naturk. Tijds. Dierk., vol. 2, 1865, p. 118.

Crotalopsis KAUP, Abh. naturw. Verein. Hamburg, vol. 4,
pt. 2, 1859 (1860), p. 12. Type Crotalopsis punctifer
KAUP, monotypic.

Crotalopsis JORDAN, Genera of Fishes, pt. 3, 1919, p.

297. Type Crotalopsis punctifer KAUP. (Error.)

Echiopsis KAUP, Abh. naturw. Verein. Hamburg, vol. 4, pt.

2, 1859 (1860), p. 13. Type Ophisurus intertinctus

RICHARDSON, monotypic.

Macrodonophis POEY, Repert. Fis. Nat. Cuba, vol. 2,

1867, p. 251. Type Macrodonophis mordax POEY, mono-

typic.

Scytalichthys JORDAN and DAVIS, Rep. U. S. Fish Comm.,

pt. 16, 1888 (1892), p. 634. Type Ophichthys miurus

JORDAN and GILBERT, virtually monotypic.

Snout short. Eyes more or less superior. Mouth large. Lips not fringed. Teeth unequal, some as long canines either on vomer or on sides of one or both jaws. Vomerine teeth small and fixed. Tail little longer than rest of body. Dorsal begins more or less behind gill opening. Anal present. Pectoral well developed.

Species few, darkly spotted, differing from Ophichthus chiefly by the presence of large canines.

Ophichthys schneideri STEINDACHNER, Sitz. Ber. Akad.

Wiss. Wien, Math.-naturw. Kl., vol. 80, pt. 1, 1880,
p. 184. No locality.

Said to be close to the Atlantic Mystriophis intertin-
ctus (Richardson), of which it is likely a synonym.

Analysis of species

a¹. Pectoral 6; mouth cleft $2 \frac{1}{5}$; space between gill
opening and dorsal origin $1 \frac{1}{2}$ in head.

porphyreus.

a². Pectoral 4; mouth cleft 2; space between gill
opening and dorsal origin $2 \frac{1}{2}$ in head.

adpersus.

Mystriophus porphyreus (Schlegel)

Ophisurus porphyreus SCHLEGEL, Fauna Japonica, Poiss.,
pt. , 1847, p. 265, pl. 116. Japan. -- BLEEKER,
Verh. Batav. Genootsch. (Nal. Ichth. Japan), vol.
25, 1853, p. 19 (reference).

Mystriophus porphyreus KAUP, Cat. Apodal Fish Brit.

Mus., 1856, p. 11 (Japan). -- JORDAN and SNYDER,
Proc. U. S. Nat. Mus., vol. 23, 1901, p. 874 (Wak-
anoura).

Ophichthys rostellatus (not RICHARDSON) GÜNTHER, Cat.

Fishes Brit. Mus., vol. 8, 1870, p. 56 (Japan; not
West African material).

Mystriophis adpersus (Günther)

Ophichthys adpersus GÜNTHER, Cat. Fishes Brit. Mus.,
vol. 8, 1870, p. 57. China. -- ELERA, Cat. Fauna
Filip., vol. 1, 1895, p. 588 (Luzon, Manila). --
FOWLER, Hong Kong Naturalist, vol. 3, No. 1, March
1932, p. 63 (copied).

Genus Xyrias Jordan and Snyder

Xyrias JORDAN and SNYDER, Proc. U. S. Nat. Mus., vol.
23, 1901, p. 868. Type Xyrias revulsus JORDAN and
SNYDER, orthotypic.

Body elongate. Head large. Mouth cleft large. Lips entire. Teeth all pointed, subequal, front ones somewhat enlarged, lower teeth large and mostly uniserial. Dorsal begins well behind dorsal tip. Pectoral present.

Japan. Differs from Ophichthus chiefly in the lateral upper teeth in a broad band of about 4 series.

Xyrias revulsus Jordan and Snyder

Xyrias revulsus JORDAN and SNYDER, Proc. U. S. Nat.

Mus., vol. 23, 1901, p. 868, fig. 16. Near Misaki.

Genus Cirrhimuraena Kaup

Cirrhimuraena KAUP, Cat. Apodal Fish Brit. Mus., 1856,

p. 27. Type Cirrhimuraena chinensis KAUP, monotypic.

Body much elongated, cylindrical. Head rather small, pointed. Snout pointed, slightly protrudes before mandible. Eye small. Mouth cleft extends far beyond eye. Upper lip with row or fringe of barbels. Teeth equal, small, in bands in jaws and on vomer. Tongue not free. Front nostril short tube on snout edge. Hind nostril slit on inner side of upper lip. Gill openings small, below and before pectoral base. Lateral line present. Dorsal origin over or slightly behind gill openings. Dorsal and anal not confluent short space from point of tail. Pectoral moderate. Vent premedian.

Known by the fringed upper lip.

Analysis of species

a¹. Premaxillary teeth on under surface of snout exposed before closed mandible tip.

b¹. Mouth cleft 3 in head; vomerine teeth biserial.

arenicola.

b². Mouth cleft $2 \frac{1}{10}$ in head; vomerine teeth uniserial.

paucidens.

a². Premaxillary teeth on under surface of snout not exposed before closed mandible tip.

c¹. Mouth cleft 4 in head; vomerine teeth uniserial.

calamus.

c². Mouth cleft 3 in head; vomerine teeth biserial.

d¹. Head nearly 5 to vent; pectoral 4 in head.

playfairii.

d². Head $3 \frac{1}{3}$ to vent; pectoral 2 in head.

tapeinopteras.

c³. Mouth cleft less than 3 in head; vomerine teeth broad band of 3 or 4 series of teeth.

e¹. Dorsal origin midway between hind eye edge and gill opening.

olivieri.

e². Dorsal origin above gill opening.

chinensis.

e³. Dorsal origin behind pectoral base.

cheilopogon.

Cirrhimuraena arenicola (Klunzinger)

Ophichthys arenicola KLUNZINGER, Verh. zool. bot.

Ges. Wien, vol. 21, 1871, p. 609. Koseir, Red

Sea. -- BORSIERI, Ann. Mus. Civ. Stor. Nat.

Genova, vol. 41, 1904, p. 219 (Zula, Red Sea).

Cirrhimuraena paucidens Herre and Myers

Cirrhimuraena paucidens HERRE and MYERS, Lignan Sci.

Journ., vol. 10, Nos. 2-3, Aug. 1931, p. 249. Hoi-

how, hainan.

Cirrhimuraena calamus (Günther)

Ophichthys calamus GÜNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 74. Freemantle, Australia; Journ. Mus. Godeffroy, vol. 17, pt. , 1910, p. 400 (type). -- FOWLER and BALL, Bull. Bishop Mus., No. 26, 1925, p. 6 (Lahaina, Maui).

Ophichthus calamus FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 45 (Lahaina specimen).

Cirrhimuraena calamus MC CULLOCK, Australian Mus. Mem., vol. 5, June 29, 1929, p. 69 (reference).

Microdonophis macgregori JENKINS, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 422, fig. 2. Lahaina, Maui. -- JORDAN and EVERMANN, Bull. U. S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 82, fig. 18 (type).

Cirrhimuraena playfairii (Günther)

Ophichthys platfairii GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 76. Zanzibar. -- BARNARD, Ann.

South African Mus., vol. 21, pt. 1, 1925, p. 205

(type; Delagoa Bay).

Cirrhimuraena olivieri (Seale)

Jenkinsiella oliveri SEALE, Philippine Journ. Sci., vol.

4, 1909, p. 493. Zaniboanga.

Cirrhimuraena olivieri HERRE, Philippine Journ. Sci.,

vol. 23, No. 2, Aug. 1923, p. 165, pl. 2, fig. 2 (type).

Cirrhimuraena tapeinoptera Bleeker

Cirrhimuraena tapeinopterus BLEEKER, Nederland.

- Tijds. Dierk., vol. 1, 1863, p. 183. Java and
Macassar; Atlas Ichth. Ind. Neerland., vol. 4,
1864, p. 41, pl. (8) 152, fig. 3 (Java; Celebes).
-- WEBER and BEAUFORT, Fishes Indo Austral. Arch-
ipelago, vol. 3, 1916, p. 291 (Macassar; Flores).
-- HERRE, Philippine Journ. Sci., vol. 23, No. 2,
Aug. 1923, p. 165 (Manila Bay; Mindoro).

Cirrhimuraena tapeinoptera KNER, Reise Novara, Fische,
1865, p. 376 (Java).

Ophichthys tapeinopterus GÜNTHER, Cat. Fishes Brit.
Mus., vol. 8, 1870, p. 75 (type, from Java).

Ophichthus tapeinopterus JORDAN and SEALE, Bull.

Bur. Fisher., vol. 26, 1906 (1907), p. 6 (Cavite).

-- JORDAN and RICHARDSON, Bull. Bur. Fisher., vol.

27, 1907 (1908), p. 238 (Manila).

Jenkinsiella nectura JORDAN and SEALE, Bull. Bur.

Fisher., vol. 26 , 1906 (1907), p. 6, fig. 1.

Cavite, Philippines.

Cirrhimuraena chinensis Kaup

Cirrhimuraena chinensis KAUP, Archiv Naturg., 1856,

pt. 1, p. 51. No locality; Cat. Apodal Fish Brit.

Mus., 1856, p. 27 (China; Macassar). -- FOWLER,

Journ. Acad. Nat. Sci. Philadelphia, ser. 2, vol.

12, 1904, p. [Padang]; Proc. Acad. Nat. Sci. Phila-

delphia, 1912, p. 16 (Padang examples). -- WEBER,

Siboga Exp., vol. 57, Fische, 1913, p. 50 (Macassar).

-- WEBER and BEAUFORT, Fishes Indo Austral. Archipel-

ago, vol. 3, 1916, p. 292, figs. 134-135 (Macassar

specimen). -- HERRE, Philippine Journ. Sci., vol. 23,

No. 2, Aug. 23, 1923, p. 167 (Cavite and Manila Bay).

-- CHEN, Bull. Biol. Dep. Sun Yat-Sen Univ., vol. 1,

No. 1, 1929, p. 27 (copied). -- WU, Contrib. Biol.

Lab. Sci. Soc. China, vol. 5, No. 4, 1929, p. 36, fig.

30 (head) (Amoy). -- FOWLER, Hong Kong Naturalist, vol.

3, No. 1, March 1932, p. 58, fig. 5 (Sumatran examples).

Ophichthys chinensis GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 75 (China; type of Ophisurus poly-

odon). -- GORGOZA, Anal. Soc. Españ. Hist. Nat. Mad-

rid, vol. 14, 1885, p. 74 (Manila). -- ELERA, Cat.

Fauna Filip., vol. 1, 1895, p. 590 (Luzon; Manila).

Ophisurus polyodon BLEEKER, Act. Soc. Sci. Ind, Neer-

land., (Sumatra 8), vol. 8, 1859, p. (11) 86. Pri-

aman, Sumatra.

Depth $28 \frac{1}{4}$ to 35; head $8 \frac{1}{2}$ to $9 \frac{4}{5}$, $3 \frac{1}{8}$ to $3 \frac{1}{3}$ to vent, width $3 \frac{7}{8}$ to $4 \frac{1}{3}$ its length; combined head and trunk $2 \frac{2}{5}$ in tail. Snout 7 to $7 \frac{2}{3}$ in head; eye 23, $2 \frac{1}{4}$ to 3 in snout, $1 \frac{1}{4}$ in interorbital; mouth cleft extends $3 \frac{1}{2}$ eye diameters behind eye, length $2 \frac{2}{5}$ to $2 \frac{1}{2}$ in head; teeth minute, simple, conic, in broad bands in jaws, also median similar band on vomer; upper lips with fringe of cirri, lower entire; interorbital 2 in snout, little convex. Gill opening $1 \frac{1}{5}$ in snout, low, $1 \frac{1}{4}$ in interspace.

Lateral line prominent, complete.

Dorsal origin over pectoral origin to $\frac{1}{5}$ of depressed pectoral fin length. Dorsal and anal very low. Pectoral $2 \frac{1}{3}$ in head.

Brown, little paler on under surfaces. Iris gray. Dorsal brown. Anal pale.

East Indies, Philippines, China.

1 example A. N. S. P. Padang, Sumatra. A. C. Harrison and Hiller. Length 381 mm. Brown above, made up of minute dark dots as seen under a lens. Whitish or brownish white below. Dorsal dark brown. Anal and pectoral pale brown.

6260. Manila market. June 12, 1908. Length 283 mm.

Cirrhimuraena cheilopogon (Bleeker)

Ophisurus cheilopogon BLEEKER, Act. Soc. Sci. Ind.

Neerland., (Celebes 13), vol. 8, 1860, p. 59.

Badjoa, Celebes.

Cirrhimuraena chilopogon BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 42 (type). -- WEBER and

BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3,

1916, p. 293 (Timor specimen).

Cirrhimuraena cheilopogon BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, pl. (19) 163, fig. 2. --

WEBER, Siboga Exp., vol. 57, Fische, 1913, p. 51

(south coast Timor).

Ophichthys chilopogon GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 76 (type).

Genus Brachysomophis Kaup

Brachysomophis KAUP, Cat. Apodal Fish Brit. Mus.,

1856, p. 9. Type Brachysomophis horridus KAUP,

monotypic.

Achirophichthys BLEEKER, Nederland. Tijds. Dierk.,

vol. 2, 1864, (1865), p. 42. Type Achirophichthys

typus BLEEKER, monotypic.

Body elongate, more or less cylindrical. Head moderate. Snout short, pointed. Eye small, far advanced in head, somewhat directed upward. Mouth cleft very wide, jaws subequal or lower somewhat protruded. Teeth unequal, canine like on vomer and mandibles, smaller and biserial or uniserial in maxillaries. Front nostrils in tube surrounded by prominent wall, hind nostrils in upper lip directed downward, before front of eye. Tongue not free. Gill openings lateral, rather wide. Dorsal begins shortly or at some distance behind gill openings, like anal ends shortly before end of tail. Pectoral small or absent. Vent little premedian or postmedian.

Analysis of species

- a¹. Brachysomophis. Pectorals present.
- b¹. Pectoral 10 or 11 in head. corcodilinus.
- b². Pectoral 8 1/3 in head. henchawi.
- a². Acirophichthys. No pectorals.
- c¹. Maxillary teeth uniserial; lips not papillated. kampeni.
- c². Maxillary teeth biserial; lips papillated. typus.

Brachysomophis crocodilinus (Bennett)

Ophisurus crocodilinus BENNETT, Proc. Comm. Zool. Soc.

London, 1833, pt. 1, p. 32. Mauritius.

Ophichthys crocodilinus GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 64 (Galapagos Islands). -- SCHMELTZ,

Cat. Mus. Godeffroy, No. 7, 1879, p. 59 (Savaii;

Tahiti). -- GÜNTHER, Journ. Mus. Godeffroy, vol. 10,

pt. , 1910, p. 398 (Mauritius, Savaii, Tahiti, Gal-

apagoa). -- ZUGMAYER, Abh. Kon. Bayer. Akad. Wiss.,

Math.-ph. Kl., vol. 26, band 6, 1913, p. 9 (Mekran;

Oman).

Ophichthys (Bascanichthys) crocodilinus STEINDACHNER,

Denks. Akad. Wiss. Wien, Math.-nat. Kl., vol. 71, pt.

1, 1907, p. 159 (Bal Haf).

Brachysomophis crocodilinus BLEEKER, Rech. Faune

Madagascar, pt. 4, 1874, p. 72 (reference). --

VAILLANT, Bull. Soc. Philomath. Paris, ser. 7,

vol. 11, 1886-87, p. 52 (Tahiti). -- JORDAN and

DAVIS, Rep. U. S. Fish Comm., pt. 16, 1888 (1892),

p. 636 (compiled). -- JORDAN and SNYDER, Proc. U.

S. Nat. Mus., vol. 23, 1901, p. 875 (compiled). --

FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 46 (com-

plied); vol. 11, No. 5, 1931, p. 316 (reference).

Brachysomophis (Brachysomophis) crocodilinus WEBER and

BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3,

1916, p. 318, fig. 148 (copied).

Brachysomophis horridus KAUP, Archiv Naturg., 1856, p.

45. Otaheite through Lesson and Gaimard; Cat. Apodal

Fish Brit. Mus., 1856, p. 9, pl. 1, fig. 6 (head)

(types). -- BLEEKER, Atlas Ichth. Ind. Neerland., vol.

4, 1864, p. 35, pl. (10) 154, fig. 3.

Brachysomophis henshawi Jordan and Snyder

Brachysomophis henshawi JORDAN and SNYDER, Proc. U. S.

Nat. Mus., vol. 27, 1904, p. 940. Honolulu, Hawaiian

Islands. -- JORDAN and EVERMANN, Bull. U. S. Fish

Comm., vol. 23, pt. 1, 1903 (1905), p. 87, pl. 7

(type). -- FOWLER, Mem. Bishop Mus., vol. 10, 1928,

p. 46 (type).

Ophichthys henshawi GÜNTHER, Journ. Mus. Godeffroy, vol.

9, pt. 17, 1910, p. 398 (Tahiti; Society Islands).

Brachysomophis kampeni (Weber and Beaufort)

Brachysomophis (Achiropichthys) kampeni WEBER and BEAU-

FORT, Fishes Indo Austral. Archipelago, vol. 3, 1916,

p. 316, figs. 150-151. Humboldt Bay near mouth of

Mbai River, New Guinea.

Brachysomophis typus (Bleeker)

Achirophichthys typus BLEEKER, Nederland. Tijds.

Dierk., vol. 2, 1864 (1865), p. 42. Manado?,
Celebes.

Brachysomophis typus BLEEKER, Atlas Ichth. Ind. Neer-

land., vol. 4, 1864, p. 39, pl. (47) 191, fig. 3

(type). -- GUNTHER, Cat. Fishes Brit. Mus., vol. 8,

1870, p. 65 (note). -- POHL, Cat. Mus. Godeffroy,

No. 9, 1884, p. 40 (Viti). -- GÜNTHER, Journ. Mus.

Godeffroy, vol. 10, pt. , 1910, p. 398 (note). --

FOWLER, Mem. Bishop Mus., vol. 11, No. 5, 1931, p. 316

(reference).

Brachysomophis (Achirophichthys) typus WEBER and BEAU-

FORT, Fishes Indo Austral. Archipelago, vol. 3, 1916,

p. 317, fig. 152 (dentition) (type).

Genus Oxystomus Rafinesque

Oxtstomus RAFINESQUE, Ind. Itt. Sicil., 1810, pp. 49,

62. Type Oxystomus hyalinus RAFINESQUE, monotypic.

Leptognathus SWAINSON, Nat. Hist. Animals, vol. 1, 1838,

p. 221. Type Leptognathus oxystomus SWAINSON, monotypic.

Anepistomon GISTEL, Naturges. Thierr., 1848, p. ix.

Type Leptorhynchus capensis SMITH, monotypic.

Head compressed. Snout very long, attenuate, clavate at tip, more than 1/4 of head. Eyes lateral. Jaws slender, elongate. Teeth pointed, none molar. Vomerine teeth present. Canine teeth strong. Front nostril in short tube near snout tip.

Dorsal and anal fins distinct.

Tail much longer than trunk. Pectoral developed, longer than eye.

Oxystomus serpens (Linnaeus)

Muraena serpens LINNAEUS, Syst. Nat., ed. 10, 1758, p.

244. Southern European Ocean; ed. 12, pt. 1, 1766,
p. 425 (copied). -- BRUNNICH, Ichth. Massil., 1768,
p. 11 (Marsailles). -- CETTI, Fauna Sardica, 1784, p.
25. -- BONNATERRE, Tabl. Ichth., 1788, p. 34 (Med-
iterranean). -- GMELIN, Syst. Nat. Linnaeus, 1789, pt.
1, p. 1133 (Southern European Ocean). -- WALBAUM,
Artedi Pisc., vol. 3, 1792, p. 149 (copied). -- SCH-
NEIDER, Syst. Ichth. Bloch, 1801, p. 487 (European
Ocean). -- BOSC, Nouv. Dict. Hist. Nat. Paris, vol. 23,
1818, p. 539 (Mediterranean). -- KAUP, Archiv Naturg.,
1856, pt. 1, p. 44 (reference); Cat. Apodal Fish Brit.
Mus., 1856, p. 7 (Naples, Cape of Good Hope, Japan).

Ophichthus serpens AHL, Spec. Ichth. Muraen. Oph.,

June 1789, p. 10 (Southern European Ocean).

Ophichthys serpens GUNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 65 (Naples, Mediterranean, Atlantic

Ocean, Demara Land; type of Ophisurus macrohynchus,

Australia). -- CASTELNAU, Proc. Linn. Soc. New South

Wales, vol. 3, 1878, p. (355) 395 (Port Jackson). --

OSORIO, Jorn. Sci. Math. Acad. Lisboa, ser. 2, Ang-

ola). -- ISHIKAWA and MATSUURA, Prelim. Cat. Fish

Mus. Tokyo, 1897, p. 6. -- THOMPSON, Marine Biol.

Rep. South Africa, vol. 3, 1916, p. 77. -- BARNARD,

Ann. South African Mus., vol. 21, pt. 1, June 1925,

p. 202, pl. 9, fig. 3 (Walfish Bay to Table Bay,

False Bay to East London).

Ophisurus serpens LACEPÈDE, Hist. Nat. Poiss., vol. 3, 1900, pp. 195, 198 (Rome, Mediterranean). -- RICHARDSON, Voy. Erebus and Terror, Ichth., 1844-48, p. 106 (Mediterranean; Atlantic Ocean). -- MC CLELLAND, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 211 (Europe). -- BONAPARTE, Cat. Metod. Pesc. Europ., 1846, p. 39 (Atlantic; Mediterranean). -- SCHLEGEL, Fauna Japonica, Poiss., pt. , 1847, p. 264. -- JORDAN and DAVIS, Rep. U. S. Fish Comm., pt. 16, 1888 (1892), p. 637 (Palermo). -- STEAD, Fishes of Australia, 1906, p. 44. -- FOWLER, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 18 (Italy).

Sphagebranchus serpens LOWE, Trans. Zool. Soc. London, vol. 3, pt. 1, 1839, p. 17. (Madevia).

Leptognathus serpens STEINDACHNER, Sitz. Ber. Akad.

Wiss. Wien, Math.-naturw. Kl., vol. 53, pt. 1, 1866,
p. 473, pl. 2, fig. 2-a (Port Jackson).

Oxystomus serpens FRANZ, Abh. Kon. Bayer. Akad. Wiss.,

vol. 4, Suppl. Band 1, 1910, p. 14 (Yokohama and
Uraga Canal).

Echelus oxyrinchus RAFINESQUE, Carr. Nuov. Piant. Ani-

mal. Sicil., 1810, p. 64. Sicily.

Leptognathus oxyrinchus SWAINSON, Nat. Hist. Animals,

vol. 2, 1839, p. 396 (Sicily).

Leptognathus oxyrhynchus MC CLELLAND, Calcutta Journ.

Nat. Hist., vol. 5, 1845, p. 211 (Sicily).

Echelus microphthalmus RAFINESQUE, Carr. Nuov. Piant.

Animal, Sicil., 1810, p. 64, Sicily.

Oxystomus hyalinus RAFINESQUE, Ind. Itt. Sicil., 1810,

p. 62. Sicily. (Larva).

Leptorhynchus capensis SMITH, Illust. Zool. South Africa,

Fishes, 1840, pl. 6. Table Bay, South Africa. --

BLEEKER, Nat. Tijds. Nederland. Indië., vol. 21,

1860, p. 56 (reference).

Ophisurus macrorhynchus BLEEKER, Verh. Batav. Genootsch.

(Muraen.), vol. 25, 1852, p. 28. Japan near Kamin-

oseki; (Nal. Ichth. Jap.), vol. 25, 1853, p. (19) 54

(compiled); Act. Soc. Ind. Néerland., No. 3, vol. 3,

1857-58, p. 6 (Japan).

Ophisurus macrorhynchus IZUUKA and MATSUURA, Cat. Zool.

Spec. Tokyo, Mus., Vertebr., 1920, p. 171 (Tateyama).

Muraena acutirostris GRAY, Cat. Fish Gronow, 1854, p.

19.

Ophisurus novae zealandiae HECTOR, Trans. New Zealand

Inst., vol. 2, April 1870, p. 34, pl. 3. Poverty
Bay, New Zealand.

Ophichthys serpentinus SEALE, Bull. Mus. Comp. Zool.,

vol. 61, No. 4, May 1917, p. 84. Cape of Good Hope.

Genus Bascanichthys Jordan and Davis

Bascanichthys JORDAN and DAVIS, Rep. U. S. Fish Comm.,

pt. 16, 1888 (1892), p. 621. Type Coecula bascanium

JORDAN, orthotypic.

Body elongate, subterete. Teeth pointed. Dorsal moderate, begins on front part of head. Pectorals present, small.

Analysis of species

- a¹. Pectoral 4 to 5 in head; large black spots
and cross bands. cirrhochilus.
- a². Pectoral 3 in head; trunk with 8 broad
black cross bands, 15 on tail, head with
small round black spots. pinguis.

Bascanichthys cirrocheilos (Bleeker)

Ophisurus cirrocheilos BLEEKER, Act. Soc. Sci. Ind.

Néerland., No. 7, vol. 2, 1857, p. (8) 89. Amboina.

Bascanichthys cirrhochilus BLEEKER, Atlas Ichth. Ind.

Néerland., vol. 4, 1864, p. 38 (not pl. 9, 153)

(types).

Ophichthys cirrhochilus GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 65 (Formosa; type).

Ophichthys cirrochilus ELERA, Cat. Fauna Filip., vol. 1,

1895, p. 589 (Luzon, Cavite, Santa Cruz).

Ophichthys cirrhochilus ZUGMAYER, Abh. Kon. Bayer. Akad.

Wiss., Math.-ph. Kl., vol. 26, band 6, 1913, p. 9

(Oman).

Brachysomophis (Brachysonophis) cirrhochilus WEBER

and BEAUFORT, Fishes Indo Austral. Archipelago,
vol. 3, 1916, p. 315, fig. 148, text fig. 149
(dentition) (Ambon).

Bascanichthys pinguis (Günther)

Ophichthys pinguis GÜNTHER, Ann. Mag. Nat. Hist., ser.

4, vol. 10, 1872, p. 425. Solomon Islands; Cruise of
Curacoa, Brenchley, 1873, p. (410) 430, pl. 35 (type);
Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 399
(type).

Ophichthus pinguis FOWLER, Mem. Bishop Mus., vol. 10,

1928, p. 44 (compiled).

Bascanichthys hemizona OGILBY, Proc. Linn. Soc. New

South Wales, vol. 22, pt. 2, Oct. 25, 1897, p. 248.

Port Jackson.

Genus Callechelys Kaup

Callechelys KAUP, Cat. Apodal Fish Brit. Mus., 1856,

p. 28. Type Callechelys guichenoti KAUP, monotypic.

Body greatly elongate, cylindrical. Head short. Snout convex, more or less depressed and pointed, projects beyond mouth. Eye small, advanced to first fifth or sixth of head. Mouth cleft reaches below or behind eye. Edge of upper lip without or only with few filaments. Teeth few, acute, recurved, subequal, without canines, uniserial, partly biserial or on all bones biserial. Front nostrils short tube on edge of snout. Hind nostrils slit or short tube in upper lip below front border of eye or anterior. Gill openings small or lateral. Lateral line present. Dorsal origin above mouth angle or somewhat posterior, not confluent with anal, both ending short space from tail tip. Pectorals absent or only a filament.

Tropical seas, Indo Pacific, Gulf of Mexico.

Analysis of species

a¹. No pectorals.

b¹. Border of upper lip with 3 filaments; color
uniform. sibogae.

b². Upper lip without filaments.

c¹. Marbled brown and yellow; head and body 1
3/4 in tail. marmoratus.

c². Broad black band along upper part of sides;
head and body 2 1/3 to 3 in tail.

melanotaenia.

a². Pectorals reduced to minute filament.

filaria.

Callechelys sibogae Weber

Callechelys sibogae WEBER, Siboga Exp., vol. 57, Fische,
1913, p. 49, fig. 11. Noimini Bay, South east Timor.

-- WEBER and BEAUFORT, Fishes Indo Austral. Archipel-
ago, vol. 3, 1916, p. 288, fig. 133 (type).

Callechelys marmoratus (Bleeker)

Dalophis marmorata BLEEKER, Verh. Batav. Genootsch.

(Muraen.), vol. 25, 1853, p. 37. Siboga, western
Sumatra.

Sphagelbranchus marmoratus KAUP, Archiv Naturg., 1856,

pt. 1, p. 51 (reference); Cat. Apodal Fish Brit. Mus.,
1856, p. 26 (compiled).

Callechelys marmoratus BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 66, pl. (11) 160, fig.

2 (type). -- WEBER and BEAUFORT, Fishes Indo Austral.

Archipelago, vol. 3, 1916, p. 288 (type; Mauritius;

Pelew Islands). -- FOWLER, Mem. Bishop Mus., vol. 10,

1928, p. 43 (Honolulu; type of Callechelys luteus.)

Ophichthys marmoratus GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 88 (type); Journ. Mus. Godeffroy,

vol. 9, pt. 17, 1910, p. 404 (Tahiti; Pelew Islands,

Hawaii).

Callechelys guichenoti KAUP, Archiv Naturg., 1856, pt. 1,

p. 52. Otaheite: Paris Museum; Cat. Apod. Fish Brit.

Mus., 1856, p. 28, pl. 3, fig. 13 (head) (type). --

GÜNTHER, Cat. Fishes Brit. Mus., vol. 8, 1870, p. 88

(note). -- PELLEGRIN, Bull. Mus. Hist. Nat. Paris, vol.

18, 1912, pp. 206, 207 (type; Port Sandwich, New Heb-

rides).

Callechelys luteus SNYDER, Bull. U. S. Fish Comm., vol.

22, 1902 (1903), p. 517, pl. 3, fig. 5. Southern

coast of Molokai. -- JORDAN and EVERMANN, Bull. U.

S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 86,

pl. 8, fig. 1 (type).

Callechelys melanotaenia Bleeker

Callechelys melanotaenia BLEEKER, Nederland. Tijds.

Dierk., vol. 2, 1864, p. 213. Amboina; Atlas Ichth.

Ind. Neerland., vol. 4, 1864, p. 66, pl. (49) 103,

fig. 2 (type). -- KLUNZINGER, Verh. zool. bot. Ges.

Wien, vol. 21, 1871, p. 612 (Red Sea). -- JORDAN and

SNYDER, Proc. U. S. Nat. Mus., vol. 23, 1901, p. 865

(Yaeyama, Rui Kiu). -- WEBER and BEAUFORT, Fishes

Indo Austral. Archipelago, vol. 3, 1916, p. 289 (Lei-

den Museum specimen). -- IZUKA and MATSUURA, Cat. Zool.

Spec. Mus. Tokyo, Vertebr., 1920, p. 170 (Hojo, Bos-

hiu). -- FOWLER, Mem. Bishop Mus., vol. 10, 1928, p.

43 (Palmyra Island).

Ophichthys melanotaenia GÜNTHER, Cat. Fishes Brit.

Mus., vol. 8, 1870, p. 87 (type). -- SCHMELTZ, Cat.

Mus. Godeffroy, No. 5, 1874, p. 37 (Apaman Island,

Gilbert Group). -- GÜNTHER, Journ. Mus. Godeffroy,

vol. 9, pt. 17, 1910, p. 403 (Apamana).

Ophichthys bitaeniatus PETERS, Monatsb. Akad. Wiss.

Berlin, 1877, p. 556, fig. 2. Mombasa.

Callechelys filaria (Günther)

Ophichthys filaria GÜNTHER, Ann. Mag. Nat. Hist., ser.

4, vol. 10, 1872, p. 425. Misol Island; Cruise of

Curacoa, Brenchley, 1873, p. 428, (type); Journ. Mus.

Godeffroy, vol. 9, pt. 17, 1910, p. 404 (type; Samoa).

Callechelys filaria WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 290 (type;
Samoa). -- FOWLER, Mem. Bishop Mus., vol. 10, 1928,
p. 43 (Viti, Fiji); vol. 11, No. 5, 1931, p. 316 (re-
ference).

Bascanichthys pusillus SEALE, Bull. Mus. Comp. Zool.,

vol. 61, No. 4, 1917, p. 81. Fiji. -- WHITLEY,
Journ. Pan. Pacific Res. Inst., vol. 2, No. 1, Jan.-
March, 1927, p. 4 (Fiji).

Genus Stethopterus Bleeker

Stethopterus BLEEKER, Verh. Batav. Genootsch. (Muraen.),

vol. 25, 1853, p. (24) 36. Type Ophicurus vimineus

RICHARDSON, monotypic.

Leiuranus BLEEKER, Verh. Batav. Genootsch. (Muraen.),

vol. 25, 1853, p. (11) 36. Type Leiuranus lacepedii

BLEEKER, monotypic.

Body elongate, cylindrical. Head small. Snout pointed. Eye small. Mouth small, cleft extends beyond eye and upper jaw much protruded. Teeth pointed, moderate, 10 in one series each side of maxillaries and mandibles. Premaxillary plate with 4 teeth, far distant from maxillary series in furrow between nostrils. Tongue not free. Front nostrils in tubes on flattened lower surface of snout. Hind nostrils rather wide, in upper lip, directed downward, anteriorly with flap. Gill openings lateral, small, vertical slits, separated by wide interspace. Dorsal origin short space behind gill openings. Dorsal and anal not confluent, no caudal. Pectorals small. Vent postmedian.

East Indies, Japan, Oceania.

Analysis of species

- a¹. Black cross bands 25 to 34; pectoral 5 or 6;
snout strongly protruded. semicinctus.
- a². Body marbled brown; pectoral 4 1/6, jaws
nearly even. lithinus.

Stethopterus semicinctus (Lay and Bennett)

Ophisurus semicinctus LAY and BENNETT, Zool. Beechey's

Voy., Aug. 1839, p. 66, pl. 20, fig. 4. Oahu?

Liuranus semicinctus GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 54 (East Indies, Fiji, type of

Ophisurus vimineus). -- SCHMELTZ, Cat. Mus. Gode-

ffroy, No. 5, 1874, p. 37 (South Sea). -- MARTENS,

Preuss. Exped. Ost-Asien, vol. 1, 1876, p. 406 (Am-

boina; Larentuka). -- STEINDACHNER, Sitz. Ber. Akad.

Wiss. Wien, Math.-nat. Kl., vol. 115, pt. 1, 1906, p.

1422 (Upolu).

--GUNTHER, Journ. Mus. Godeffroy, vol. 9, pt.

17, 1910, p. 39 (Samoa, Fiji, Tahiti). -- MC

CULLOCH, Proc. Linn. Soc. New South Wales, vol.

36, 1911, p. (Murray Island). -- OGILBY, Mem.

Queensland, vol. 1, 1912, p. (Darnley Island).

Leiuranus semicinctus SCHMELTZ, Cat. Mus. Godeffroy,

No. 7, 1879, p. 59 (South Sea). -- POHL, Cat. Mus.

Godeffroy, No. 9, 1884, p. 40 (South Sea). -- FOW-

LER, Proc. Acad. Nat. Sci. Philadelphia, 1900, p.

494 (Hawaiian Islands). -- JORDAN and SNYDER, Proc.

U. S. Nat. Mus., vol. 23, 1901, p. 866 (Yaeyama,

Rui Kiu). -- SNYDER, Bull. U. S. Fish Comm., vol.

22, 1902 (1904), p. 516 (Honolulu). -- JORDAN and

EVERMANN, Bull. U. S. Fish Comm., vol. 23, pt. 1,

1903 (1905), p. 81 (Yaeyama example).

JORDAN and **SEALE**, Bull. Bur. Fisher., vol. 25, 1905 (1906), p. 194 (Apia). -- **KENDALL** and **GOLDSBOROUGH**, Mem. Mus. Comp. Zool., vol. 26, 1911, p. 246 (Arno Atoll, Marshalls). -- **FOWLER**, Proc. Acad. Nat. Sci. Philadelphia, 1912, p. 13 (Hawaiian Islands). -- **BEAUFORT**, Bijl. Dierk. Amsterdam, vol. 19, 1913, p. 99 (Saonek). -- **WEBER** and **BEAUFORT**, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 294, fig. 137 (Saonek material; Nusa Laut). -- **FOWLER**, Copia, No. 112, Nov. 20, 1922, p. 82 (Hawaiian Islands). -- **HERRE**, Philippine Journ. Sci., vol. 23, No. 2, Aug. 1923, p. 163 (Dumaguete and Sitanki). -- **FOWLER** and **BALL**, Bull. Bishop Mus., No. 26, 1925, p. 6 (Johnston Island). -- **DERANIYAGALA**, Ceylon Administr. Rep., 1925, p. F15.

- FOWLER, Mem. Bishop Mus., vol. 10, 1928, p. 44
 (Hawaiian Islands, Guam, Honolulu, Johnston Island,
 Samoa, Arno, Apiang, Ebon). -- WHITLEY, Journ. Pan.
 Pacific Res. Inst., vol. 3, No. 1, Jan.-March, 1928,
 p. 11 (Santa Cruz Islands). -- CHEN, Bull. Sun Yat
 Sen Univ., vol. 1, No. 1, 1929, p. 24 (on RICHARDSON).
 FOWLER, Mem. Bishop Mus., vol. 11, No. 5, 1931, p. 316
 (reference).

Stethopterus semicinctus FOWLER, Hong Kong Naturalist,
 vol. 3, No. 1, March 1932, p. 58, fig. 6 (Micronesia,
 Polynesia, Hawaii); Proc. U. S. Nat. Mus., vol. 81,
 art. 8, 1932, p. 2 (Ninafoon).

Ophisurus vimineus RICHARDSON, Voy. Sulphur, Fishes, 1844,
 p. 107, pl. 52, fig. 16-20. China; Ichth. China Jap-
 an, 1846, p. 314 (China); Voy. Erebus and Terror, Ichth.,
 1844-48, p. 106 (China).

Leiuranus lacepedii BLEEKER, Verh. Batav. Genootsch.

(Muraen.), vol. 25, 1853, p. (11) 36. Sibogha.

Leiuranus colubrinus (not BODDAERT) KAUP, Archiv

Naturg., 1856, pt. 1, p. 42, (compiled); Cat. Apod-

al Fish Brit. Mus., 1856, p. 2 (China, Mauritius,

Malay Archipelago). -- BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 42, pl. (19) 163, fig.

1 (Java, Cocos, Sumatra, Batu). -- KNER, Reise Nov-

ara, Fische, 1865, p. 378 (locality?). -- BLEEKER,

Rech. Faune Madagascar, pt. 4, 1874, p. 72 (refer-

ence).

Ophichthys colubrinus SEALE, Occas. Pap. Bishop Mus.,

vol. 1, No. 3, 1900 (1901), p. 62 (Guam).

Ophisurus multizonus (CUVIER) KAUP, Archiv Naturg.,

1856, pt. 1, p. 42 (name in synonymy).

Ophichthys cobra DE VIS, Proc. Linn. Soc. New South

Wales, 1883 (1884), p. 455. South Sea Islands.

Depth 44 to 58; head $12 \frac{1}{2}$ to $13 \frac{1}{3}$, $5 \frac{4}{5}$ to 6 to vent, width $4 \frac{1}{2}$ to 5 in its length; combined head and trunk $1 \frac{1}{8}$ in tail. Snout $4 \frac{3}{4}$ to $6 \frac{1}{2}$ in head; eye $9 \frac{2}{5}$ to 13, $1 \frac{1}{2}$ to $2 \frac{1}{5}$ in snout, $1 \frac{1}{5}$ to $1 \frac{1}{3}$ in interorbital; mouth cleft extends eye diameter behind eye, length $2 \frac{4}{5}$ to $3 \frac{1}{2}$ in head; teeth minute, uniserial in jaws, several rather large conic ones on premaxillary well before closed mandible tip; interorbital $7 \frac{1}{4}$ to 10, well depressed, slightly convex. Gill opening $9 \frac{1}{2}$ to $12 \frac{1}{5}$, $1 \frac{1}{2}$ to $1 \frac{3}{4}$ in interspace.

Lateral line distinct, complete.

Dorsal origin begins eye diameter before gill opening to point opposite pectoral origin, fin height $6 \frac{1}{2}$ in head; anal subequally low as dorsal; pectoral $6 \frac{1}{4}$ to 10.

Pale brown or yellowish brown, with 22 to 26 broad deep or blackish brown cross bands, saddle like on trunk or incomplete though entirely continuous on tail. Tip of snout and tail whitish. With age dark bands may be divided partially by pale median bar, at least larger blotches. Fins pale, dark bands extending on vertical ones. Iris gray.

Mauritius, East Indies, Philippines, China, Riu Kiu, Queensland, Melanesia, Micronesia, Polynesia, Hawaii.

4988. Bongao Anchorage, Sulu Archipelago, Tawi Tawi.
February 22, 1908. Length 203 to 407 mm. 3 examples.
21659. Cebu market. August 28, 1909. Length 151 mm.
14119 and 14120. Great Tobea Island tide pools. December 15, 1909. Length 268 to 384 mm.
2 examples A. N. S. P. Hawaiian Islands. Length 318 to 336mm.

Stethopterus lithinus (Jordan and Richardson)

Leiruanus lithinus JORDAN and RICHARDSON, Bull. Bur.

Fisher., vol. 27, 1907 (1908), p. 238, fig. 3. Cuyo.

Genus Caecula Vahl

Caecula VAHL, Skrivt. Naturh. Selsk. København, vol. 3,

1794, pp. 2, 149. Type Caecula apterygera VAHL, monotypic.

Sphagebranchus BLOCH, Naturg. Ausland. Fische, vol. 9,

1795, p. 88, Type Sphagebranchus rostratus BLOCH, monotypic.

Caecilia (not LINNAEUS) LACÉPÈDE, Hist. Nat. Poiss., vol.

2, 1800, p. 135. Type Caecilia branderiana LACÉPÈDE =

Muraena caeca LINNAEUS.

Apterichtus DUMÉNIL, Zool. Analytique, 1806, p. (112)

331. Atypic. Type Muraena caeca LINNAEUS, affixed
by JORDAN and EVERMANN, Genera of Fishes, pt. 1, 1917,
p. 75.

Apterichthys DELAROCHE, Ann. Mus. Hist. Nat. Paris, vol.

13, 1809, p. 325. Type Muraena caeca LINNAEUS.

Dalophis RAFINESQUE, Carr. Nuov. Piant. Animal. Sicil.,

1810, p. 69. Type Dalophis bimaculata RAFINESQUE.

?Pterurus (not Pterourus SCOPOLI 1777) RAFINESQUE, Ind.

Itt. Sicil., 1810, p. 59. Type Pterurus flexuosus

RAFINESQUE.

Typhlotes FISCHER, Zoognos. Tab. Synopt. Illustr., ed.

3, vol. 1, 1813, p. 75. Type Sphagebranchus rostratus

BLOCH, virtually. Typhlotes FISCHER proposed to re-

place Sphagebranchus BLOCH.

Branderius RAFINESQUE, Analyse de la nature, 1815,

p. 93. Type Muraena caeca LINNAEUS, virtually.

Branderius RAFINESQUE proposed to replace

Sphagebranchus BLOCH.

Ichthapus BRISSOUT DE BARNEVILLE, Rev. Mag. Zool.,

1847, p. 219. Type Ichthyapus acutirostris BRISSOUT

DE BARNEVILLE, monotypic.

Lamnostoma KAUP, Archiv Naturg., 1856, pt. 1, p. 49.

Type Lamnostoma pictum KAUP = Dalophis orientalis

MC CLELLAND.

Anguisurus KAUP, Archiv Naturg., 1856, pt. 1, p. 24.

Type Angiusurus punctulatus KAUP, monotypic.

Ophicurapus KAUP, Archiv Naturg., 1856, pt. 1, p. 52.

Type Ophisurapus gracilis KAUP, monotypic.

Ophisuraphis KAUP, Cat. Apodal Fish Brit. Mus.,

1856, p. 29. Type Ophisuraphis gracilis KAUP,

monotypic.

Scytallurus DUMÉRIL, Mem. Acad. Sci. Paris, vol. 27,

1856, p. 199. Type Sphagebranchus imberbis DELA-

ROCHE, monotypic.

Pelia (SCHLEGEL) BLEEKER, Naturk. Verh. Holland Maatsch.

Haarlem, vol. 18, No. 2, 1863, p. 128. Type Pelia

cephalopeltis (BLEEKER) SCHLEGEL, monotypic. Name

in synonymy.

Verma JORDAN and EVERMANN, Bull. U. S. Nat. Mus., No. 47,

pt. 1, 1896, p. 374. Type Sphagebranchus kendalli

GILBERT.

Body well elongated, cylindrical. Head short or moderate. Snout pointed, projects beyond mouth, with shark like profile. Eyes small, **before** or above middle of mouth cleft. Mouth small, reaches behind or far behind eye. Lips without filaments. Teeth small, conic, pointed, mostly uniserial. Vomerine teeth equal in size, stouter, biserial. Tongue scarcely free in front. Front nostril tubular, at border of upper lip, or at ventral surface of prominent part of snout. Hind nostril slit in border of upper lip, faces downward. Gill slits small, close together, inferior, vertical or converge forward. No scales. Lateral line present. Dorsal origin above or generally more or less behind gill openings. Dorsal and anal sometimes absent, or very low, not confluent, ending at short distance from end of tail. No pectorals.

Small eels, mostly living on sandy shores of temperate and tropical seas, some entering **fresh** water.

The following doubtful.

Caecula catostomus (Schneider)

Sphagebranchus catostomus SCHNEIDER, Syst. Ichth.

Bloch, 1801, p. 536. Tahiti.

Caecula catostomus FOWLER, Mem. Bishop Mus., vol.

10, 1928, p. 46 (compiled).

Muraena coeca (not LINNAEUS) (FORSTER) LICHTENSTEIN,

Descript. Animal., 1844, p. 230 (Tahiti).

Analysis of species

a¹. Gill openings ventral, oblique or longitudinal slits, anteriorly (superiorly) with duplicature of gill membranes.

b¹. Vertical fins present as low fold.

c¹. Space between gill opening and dorsal origin $2 \frac{1}{3}$ to 4 in head.

polyophthalma.

c². Space between gill opening and dorsal origin 7 in head.

orientalis.

c³. Dorsal origin at last fourth of body.

acuticeps.

b². No vertical fins; head and trunk $1 \frac{1}{2}$ in tail; head 4 to vent.

vulturis.

a². Gill openings more or less ventral, vertical, oblique or longitudinal slits, their gill membranes without duplicature.

d¹. Dorsal well developed or very low.

e¹. Dorsal origin at first third between mouth angle and gill opening; head 9 to vent. longipinne.

e². Dorsal origin midway between mouth angle and gill opening.

f¹. Head 8 to vent; body and tail equal. tenuis.

f². Head 9 or 10 to vent; tail somewhat longer than body. kirkii.

e³. Dorsal origin above or slightly behind gill opening.

g¹. Vomerine teeth much stouter than jaw teeth.

h¹. Head $3 \frac{3}{5}$ to $3 \frac{4}{5}$ to vent; eye over first third of mouth cleft. mindora.

h². Head 4 to $4 \frac{1}{3}$ to vent; eye median in mouth cleft.

macrodon.

g². Teeth equal small.

i¹. Head $5 \frac{2}{3}$ to vent; teeth uniserial; mouth cleft $3 \frac{1}{2}$ in head. bicolor.

i². Head 7 to vent; vomerine
teeth biserial; mouth
cleft 3 in head.

lumbricoides.

i³. Head $7 \frac{3}{5}$ to vent; teeth
uniserial; mouth
cleft over 5 in head.

misolensis.

e⁴. Dorsal origin over $\frac{1}{2}$ head
length behind gill openings.

j¹. Head $10 \frac{3}{4}$ to vent;
vomerine teeth bi-
serial. anceps.

j². Head $7 \frac{1}{3}$ to vent;
teeth uniserial.

kaupii.

j³. Head $6 \frac{5}{6}$ to vent;
very slight fold
along back indicat-
ing dorsal. moseri.

j⁴. Head 6 to vent; vom-
erine teeth biseri-
al. moluccensis.

j⁵. Head $5 \frac{1}{10}$ to vent;
teeth uniserial.

gjellerupi.

- j⁶. Head $4 \frac{2}{3}$ to vent; teeth
uniserial, biserial on
premaxillary. fusca.
- d². Vertical fins forming rudiment only
quite near end of tail; head 6 to
vent. klazingai.
- d³. No fins.
- k¹. Head 8 to vent; vomer-
ine teeth partly bi-
serial. quadrata.
- k². Head 6 to vent; no vom-
erine teeth?
gracilis.
- k³. Head $4 \frac{1}{2}$ to 5 to vent
few sharp teeth on
front of vomer.
flavicauda.

Caecula polyophthalma (Bleeker)

Dalophis polyophthalmus BLEEKER, Nat. Tijds. Nederland. Indië, vol. 4, 1853, p. 299. Priaman, Sumatra.

Sphagebranchus polyophthalmus KAUP, Archiv Naturg., 1856, p. 51 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 26 (compiled). -- BLEEKER, Atlas Ichth. Ind. Neerland., vol. 4, 1864, p. 70, pl. (10) 154, fig. 1 (Java, Sumatra, Batjan). -- WEBER and BEAUFORT, Fishes Indo Austral. Archipelago, vol. 3, 1916, p. 329 (Nias, Nako, Madura Strait).

Sphagebranchus polyophthalmus DERANIYAGALA, Ceylon Administrat. Rep., 1925, p. F15.

Sphagebranchus polyophthalurns DERANIYAGALA, Ceylon Administrat. Rep., 1926, p. F18, (error).

Ophichthys polyophthalmus GÜNTHER, Cat. Fishes Brit.

Mus., vol. 8, 1870, p. 85 (type). -- VOLZ, Zool.

Jahrb. Syst., vol. 19, 1903, p. 416.

Caecula polyophthalma FOWLER, Mem. Bishop Mus., vol.

3, 1794, p. 149, pl. 13.

Angiusurus punctulatus KAUP, Archiv Naturg., 1856, pt.

1, p. 50. Java; Cat. Apodal Fish Brit. Mus., 1856,

p. 24, pl. 2, fig. 12 (head) (type).

Ophichthys punctulatus GÜNTHER, Journ. Mus. Godeffroy,

vol. 9, pt. 17, 1910, p. 403 (Samoa, Tahiti, Viti

Levu).

Caecula orientalis (Mc Clelland)

Dalophis orientalis MC CLELLAND, Calcutta Journ. Nat.

Hist., vol. 5, 1845, p. 213 (on Manti bukaro

paumu RUSSELL, Fishes of Cormandel, vol. 1, 1803,

p. 26, pl. 37, Vizagapatam). -- JERDON, Madras Journ.

Lit. Sci., 1851, p. 151. -- BLEEKER, Verh. Batav.

Genootsch. (Nal. Ichth. Bengal), vol. 25, 1853, p.

78 (reference).

Sphagebranchus orientalis KNER, Reise Novara, Fische,

1865, p. 380 (Ceylon). -- WEBER and BEAUFORT, Fishes

Indo Austral. Archipelago, vol. 3, 1916, p. 32, fig.

154 (British New Guinea). -- DERANIYAGALA, Ceylon

Administrat. Rep., 1925, p. F15.

Ophichthys orientalis GUNTHER, Cat. Fishes Brit.

Mus., vol. 8, 1870, p. 87 (Madras). -- DAY, Fishes of India, pt. 4, 1878, p. 665, pl. 171, fig. 1. -- KAROLI, Termesz. Fuzetek, Budapest, vol. 5, 1881, p. 185 (Ceylon). -- DAY, Fauna Brit. India, Fishes, vol. 1, 1889, p. 96. -- SAUVAGE, Hist. Nat. Madagascar, Poiss., 1891, p. 501, pl. 49c, fig. 4 (head) (Tamatava).

Ophichthys orientalis SAUVAGE, Hist. Nat. Madagascar,

Poiss., 1891, pl. 49b, fig. 5.

Lamnostoma orientalis HERRE, Philippine Journ. Sci.,

vol. 23, No. 2, Aug. 1923, p. 180, pl. 6, fig. 1

(Las Banōsa).

Caecula orientale FOWLER, Mem. Bishop Mus., vol. 10,

1928, p. 46 (compiled).

Lamnostoma pictum KAUP, Archiv Naturg., 1856, pt. 1,
p. 50. "Dekan. Keyden" (Museum: on MC CLELLAND);
Cat. Apodal Fish Brit. Mus., 1856, p. 23, pl. 2,
fig. 11 (head) (Deccan).

Depth 45; head 15, width $4 \frac{2}{3}$. Snout $5 \frac{1}{2}$ in head;
eye 20, $3 \frac{1}{5}$ in snout, 2 in interorbital; mouth cleft reaches $3 \frac{1}{2}$ eye diameters behind eye, length $2 \frac{1}{2}$ in head, mandible tip falling midway in snout length; teeth pointed, slender, 2 series on premaxillary before closed mandible tip, uniserial in jaws, biserial on front of vomer and uniserial behind; interorbital $1 \frac{1}{2}$ in snout, convex. Gill opening equals interorbital, inferior, interspace $\frac{3}{5}$ its length.

Vertical fins not clearly made out except after middle of total length. Tail at least little longer than rest of fish.

Madagascar, India, Ceylon, East Indies, Philippines.
Owing to the poor preservation of my only example, I am unable to give further details.

D. 5356. Balabac Light, S. 64° W., 15.5 miles (N. $8^{\circ}6'40''$ W. $117^{\circ}18'45''$), north Balabac Strait. In 58 fathoms. January 5, 1908. Length 260 mm.

Caecula acuticeps (Barnard)

Sphagebranchus acuticeps BARNARD, Ann. South African

Mus., vol. 13, pt. 8, 1923, p. 444. Off mouth

Tugela River, Natal, 37 fathoms; vol. 21, pt. 1,

1925, p. 206 (type).

Caecula vulturis (Weber and Beaufort)

Sphagebranchus vulturis WEBER and BEAUFORT, Fishes

Indo Austral. Archipelago, vol. 3, 1916, p. 319.

Nasi besar, near west point of Sumatra.

Caecula longipinne (Kner and Steindachner)

Sphagebranchus longipinnis KNER and STEINDACHNER, Sitz.

Berl. Akad. Wiss. Wien, Math.-naturw. Kl., vol. 54,
pt. 1, 1867, p. 390, fig. 14. Samoa. -- SCHMELTZ,
Cat. Mus. Godeffroy, No. 3, 1866, p. 12 (Samoa; refer-
ence only); No. 4, 1869, p. 26 (Upolu).

Dalophis longipinnis JORDAN and SEALE, Bull. Bur. Fisher.,

vol. 25, 1905 (1906), p. 194 (Apia).

Ophichthys longipinnis GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 88 (type); Journ. Mus. Godeffroy,

vol. 9, pt. 17, 1910, p. 404 (Samoa).

Caecula longipinne FOWLER, Mem. Bishop Mus., vol. 10,

1928, p. 46 (Apia); vol. 11, No. 5, 1931, p. 316

(reference).

Caicula tenuis (Günther)

Ophichthys tenuis GÜNTHER, Cat. Fishes Brit. Mus.,
vol. 8, 1870, p. 88. No locality.

Caecula kirkii Günther

Ophichthys kirkii GÜNTHER, Cat. Fishes Brit. Mus.,
vol. 8, 1870, p. 89. Rovuma Bay, East Africa. --

REGAN, Ann. Natal Mus., vol. 1, pt. 3, 1908, p.

243 (**Kosi** Bay). -- GILCHRIST and THOMPSON, Ann.

Durban Mus., vol. 1, pt. 4, 1917, p. 302 (compiled).

Ophichthys kirki BARNARD, Ann. South African Mus., vol.

21, pt. 1, June 1925, p. 204 (Zululand).

Caecula mindora Jordan and Richardson

Caecula mindora JORDAN and RICHARDSON, Bull. Bur.

Fisher., vol. 27, 1907 (1908), p. 239, fig. 4.

Mindoro, Philippines.

Caecula mindoro HERRE, Philippine Journ. Sci., vol.

23, No. 2, Aug. 1923, p. 182 (Monodor, Waigiu

Island). -- FOWLER, Mem. Bishop Mus., vol. 10, 1928,
p. 46 (compiled).

Sphagebranchus mindora BEAUFORT, Bijdr. Dierk. Amster-

dam, vol. 19, 1913, p. 99 (Rio Waiho in fresh water,
Waigui). -- WEBER and BEAUFORT, Fishes Indo Austral.

Archipelago, vol. 3, 1916, p. 322 (Waigiu specimen).

Caecula taylori HERRE, Philippine Journ. Sci., vol. 23,

No. 2, Aug. 1923, p. 183, fig. 7 (teeth). Cabatoan
River near Iba.

Depth 31 to $31 \frac{1}{2}$; head $7 \frac{1}{4}$ to $7 \frac{3}{4}$, $3 \frac{1}{3}$ to $3 \frac{3}{4}$ to vent, width $4 \frac{2}{5}$ to $4 \frac{4}{5}$ in its length; combined head and trunk $1 \frac{1}{10}$ in tail. Snout 8 to $9 \frac{3}{5}$ in head; eye $17 \frac{1}{8}$ to 18, $2 \frac{1}{3}$ to 3 in snout, $1 \frac{1}{2}$ to $1 \frac{3}{5}$ in interorbital; mouth cleft extends 3 to $3 \frac{1}{2}$ eye diameters behind eye, length 3 to $3 \frac{1}{2}$ in head; teeth conic, slender, uniserial in jaws and single row of 5 or 6 large ones down vomer; interorbital $1 \frac{3}{4}$ to $2 \frac{4}{5}$ in snout, convex. Gill opening low, nearly equals snout, interspace little less.

Lateral line distinct, complete.

Dorsal origin behind gill opening space equal to snout and half or all of eye combined. Vertical fins low.

Brown or gray brown, obscurely clouded darker on back and upper surfaces. Muzzle dark gray. Iris gray. Under surface of head gray white. Belly whitish. Dorsal pale brown. Anal whitish.

East Indies, Philippines.

18236. Nato River, Lagonoy Gulf, Luzon. June 18, 1909.
Length 490 mm.

22617. Paluan River, Mindoro. December 11, 1908.
Length 203 mm.

20538. Tilig, Lubang Island. July 14, 1908. Length
258 mm.

Caecula macrodon (Bleeker)

Sphagebranchus macrodon BLEEKER, Nederland. Tijds.

Dierk., vol. 1, 1863, p. 184, Borneo; Atlas Ichth.

Ind. Neerland., vol. 4, 1864, p. 69, pl. (12) 156,

fig. 1 (Borneo; Rottl). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916, p.

323 (Leiden Museum specimen).

Ophichthys macrodon GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 85 (compiled). -- BARTLETT, Sarawak

Gazette, vol. 26, No. 368, 1896, p. 180 (reference).

-- GÜNTHER, Journ. Mus. Godeffroy, vol. 9, pt. 17,

1910, p. 402 (Viti Levu; Society Island).

Caecula macrodon FOWLER, Mem. Bishop Mus., vol. 10,

1928, p. 47 (compiled).

Caecula bicolor (Kaup)

Lamnostoma bicolor KAUP, Archiv Naturg., 1856, pt. 1,
p. 50. Borneo; Cat. Apodal Fish Brit. Mus., 1856,
p. 24 (type).

Sphagebranchus bicolor KAUP, Abh. Natur. Ver. Hamburg,
vol. 4, pt. 2, 1860, p. 15 (). -- BLEEKER,
Nederland. Tijds. Dierk., vol. 1, 1863, p. 185 (Bor-
neo); Atlas Ichth. Ind. Neerland., vol. 4, 1864, p.
69, pl. (11) 155, fig. 3 (Borneo). -- SCHMELTZ, Cat.
Mus. Godeffroy, No. 4, 1869, p. 26 (Naimusi). --
WEBER and BEAUFORT, Fishes Indo Austral. Archipelago,
vol. 3, 1916, p. 323 (type).

Ophichthys bicolor GUNTHER, Cat. Fishes Brit. Mus., vol.
8, 1870, p. 86 (compiled). -- SCHMELTZ, Cat. Mus.
Godeffroy, No. 5, 1874, p. 37 (Viti Islands); No. 7,
1879, p. 59 (Viti Islands). -- BARTLETT, Sarawak
Gazette, vol. 26, No. 368, 1896, p. 180 (reference).

Caecula bicolor FOWLER, Mem. Bishop Mus., vol. 10,
1928, p. 47 (compiled); vol. 11, No. 5, 1931, p.
316 (reference).

Caecula lumbricoides (Bleeker)

Sphagebranchus lumbricoides BLEEKER, Nederland. Tijds.
Dierk., vol. 2, 1864, p. 46. Timor; Atlas Ichth.
Ind. Neerland., vol. 4, 1864, p. 71, pl. (44) 188,
fig. 4 (type). -- SCHMELTZ, Cat. Mus. Godeffroy,
No. 4, 1869, p. 26 (East Indies; Mamusi). -- WEBER
and BEAUFORT, Fishes Indo Austral. Archipelago, vol.
3, 1916, p. 324 (type).

Caecula lumbricoides FOWLER, Mem. Bishop Mus., vol. 10,
1928, p. 47 (compiled).

Ophichthys timorensis GÜNTHER, Cat. Fishes Brit. Mus.,
vol. 8, 1870, p. 86 (on BLEEKER'S type). -- SCHMELTZ,
Cat. Mus. Godeffroy, No. 5, 1874, p. 37 (Singapore).
-- JOHNSTONE, Rep. Pearl Oyster Fisher., No. 2,
Fishes, 1904, p. 205 (Cheval Paar).

Caecula misolensis (Günther)

Ophichthys misolensis GÜNTHER, Ann. Mag. Nat. Hist.,
ser. 4, vol. 10, 1872, p. 426. Misol Island; Cruise
of Curacoa, Brenchley, 1873, p. 430.

Sphagebranchus misolensis WEBER and BEAUFORT, Fishes
Indo Austral. Archipelago, vol. 3, 1916, p. 324 (type).

Caecula anceps (Cantor)

Dalophis anceps CANTOR, Journ. Asiatic Soc. Bengal,
vol. 18, pt. 2, 1849, p. 1309, pl. 6, fig. 1-4.

Pinang Sea.

Sphagebranchus anceps KAUP, Archiv Naturg., 1856, pt.
1, p. 51 (reference); Cat. Apodal Fish Brit. Mus.,
1856, p. 27 (copied).

Ophichthys anceps GUNTHER, Cat. Fishes Brit. Mus., vol.
8, 1870, p. 84 (type).

Caecula kaupii (Bleeker)

Sphagebranchus kaupii BLEEKER, Act. Soc. Sci. Ind.

Neerland., vol. 5, No. 8, 1858-59, p. (1) 3.

Kiabatdiatas, Manado, Celebes, in rivers; Atlas

Ichth. Ind. Neerland., vol. 4, 1864, p. 70, pl.

(13) 157, fig. 1 (type). -- WEBER and BEAUFORT,

Fishes Indo Austral. Archipelago, vol. 3, 1916,

p. 325 (type).

Ophichthys kaupii GUNTHER, Cat. Fishes Brit. Mus., vol.

8, 1870, p. 86 (type).

Caecula moseri (Jordan and Snyder)

Sphagebranchus moseri JORDAN and SNYDER, Proc. U. S.

Nat. Mus., vol. 23, 1901, p. 864, fig. 14. Suruga

Bay, Japan, 100 fathoms.

Caecula moluccensis (Bleeker)

Dalophis moluccensis BLEEKER, Nat. Tijds. Nederland.

Indië, vol. 5, 1853, p. (234) 246. Ceram.

Sphagebranchus moluccensis KAUP, Archiv Naturg., 1856,

pt. 1, p. 51 (reference); Cat. Apodal Fish Brit. Mus.,

1856, p. 26 (compiled). -- BLEEKER, Atlas Ichth. Ind.

Neerland., vol. 4, 1864, p. 68, pl. (11) 155, fig. 1

(Batjan; Ceram). -- WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 325 (type).

Ophichthys moluccensis GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 85 (type).

Caecula gjellerupi (Weber and Beaufort)

Sphagebranchus gjellerupi WEBER and BEAUFORT, Fishes

Indo Austral. Archipelago, vol. 3, 1916, p. 326.

Tanah Merah in brook near shore, Dutch North New
Guinea.

Caecula gjellerupi FOWLER, Mem. Bishop Mus., vol. 10,
1928, p. 47 (copied).

Caecula fusca (Zuiew)

Muraena fusca ZUIEW, Nov. Act. Acad. Sci. Petropol.,
vol. 7, 1793, p. 296, pl. 7, fig. 1. Madagascar.

Ophichthys fuscus GÜNTHER, Cat. Fisher Brit. Mus., vol.
8, 1870, p. 85 (Madagascar).

Sphagebranchus fuscus BLEEKER, Rech. Faune Madagascar,
pt. 4, 1874, p. 72 (reference).

Sphagebranchus brevirostris PETERS, Archiv Naturges.,

1855, p. 273. Canal of Mozambique, west coast of

Madagascar, 23. 5° S. Lat. -- KAUP, Archiv Naturg.,

1856, pt. 1, p. 51 (reference); Cat. Apodal Fish

Brit. Mus., 1856, p. 25 (copied).

Caecula klazingai (Weber)

Sphagebranchus klazingai WEBER, Siboga Exp., vol. 57,

Fische, 1913, p. 47, fig. 9. Banda, 9 to 45 meters.

-- WEBER and BEAUFORT, Fishes Indo Austral. Archipel-

ago, vol. 3, 1916, p. 321, fig. 155 (type).

Caecula quadrata (Richardson)

Sphagebranchus quadratus RICHARDSON, Voy. Sulphur,

Fishes, 1844, p. 115, pl. 52, fig. 8-15, China.

-- KAUP, Archiv Naturg., 1856, pt. 1, p. 53 (reference); Cat. Apodal Fish Brit. Mus., 1856, p. 29 (copied).

Ophichthys quadratus GÜNTHER, Cat. Fishes Brit. Mus.,

vol. 8, 1870, p. 89 (type). -- ELERA, Cat. Fauna

Filip., vol. 1, 1895, p. 591 (Luzon, Manila).

Caecula gracilis (Kaup)

Ophisurapus gracilis KAUP, Archiv Naturg., 1856, pt.

1, p. 52. No locality (Paris Museum).

Ophisurhaphis gracilis KAUP, Cat. Apodal Fish Brit.

Mus., 1856, p. 29 (copied).

Ophichthys gracilis GÜNTHER, Cat. Fishes Brit. Mus.,
vol. 8, 1870, p. 90 (copied).

Caecula flavicauda (Snyder)

Sphagebranchus flavicaudus SNYDER, Bull. U. S. Fish
Comm., vol. 23, 1902 (1904) p. 516, pl. 2, fig. 4.

Between Maui and Lanai in 21 to 28 fathoms; off
north east Hawaii, 50 to 60 fathoms. -- JORDAN

and EVERMANN, Bull. U. S. Fish Comm., vol. 23, pt.
1, 1903 (1905), p. 80, pl. 5, fig. 2 (type). --

GILBERT, Bull. U. S. Fish Comm., vol. 23, pt. 2, 1903
(1905), p. 588 (off Hawaii; between Maui and Lanai;
23 to 66 fathoms).

Caecula flavicauda FOWLER, Mem. Bishop Mus., vol. 10,
1928, p. 47 (Kahala, Oahu; type); vol. 11, No. 5,
1931, p. 316 (Pearl and Hermes Reef).

Genus Hemerorhinus Weber and Beaufort

Hemerorhinus WEBER and BEAUFORT, Fishes Indo Austral.

Archipelago, vol. 3, 1916, p. 281. Type Sphage-

branchus heijningi WEBER, monotypic.

Body much elongate, cylindrical. Head short. Snout pointed, projects beyond mouth. Eye small, before first fourth in head. Mouth cleft reaches far beyond eye. Lips without filaments. Teeth pointed, recurved, uniserial. Front nostrils in short tube, directed backward at edge of upper lip below front eye edge. Hind nostril long slit below and behind eye, some space above border of upper lip. Gill openings small, ventral, vertical, transversely connected by furrow. Dorsal and anal not confluent, end short space before tail tip. Dorsal origin somewhat behind anal origin. Pectorals wanting.

East Indies. Unique in the family by the position of its nostrils, both of which are situated below the eye above the upper lip.

Hemerorhinus heijsingi (Weber)

Spasebranchus heijsingi WEBER, Siboga Exp., vol. 57,

Fische, 1913, p. 46, fig. 8 (head). Molo Strait,

69 to 91 meters.

Hemerorhinus heijsingi WEBER and BEAUFORT, Fishes Indo

Austral. Archipelago, vol. 3, 1916, p. 282, fig. 128

(copied).